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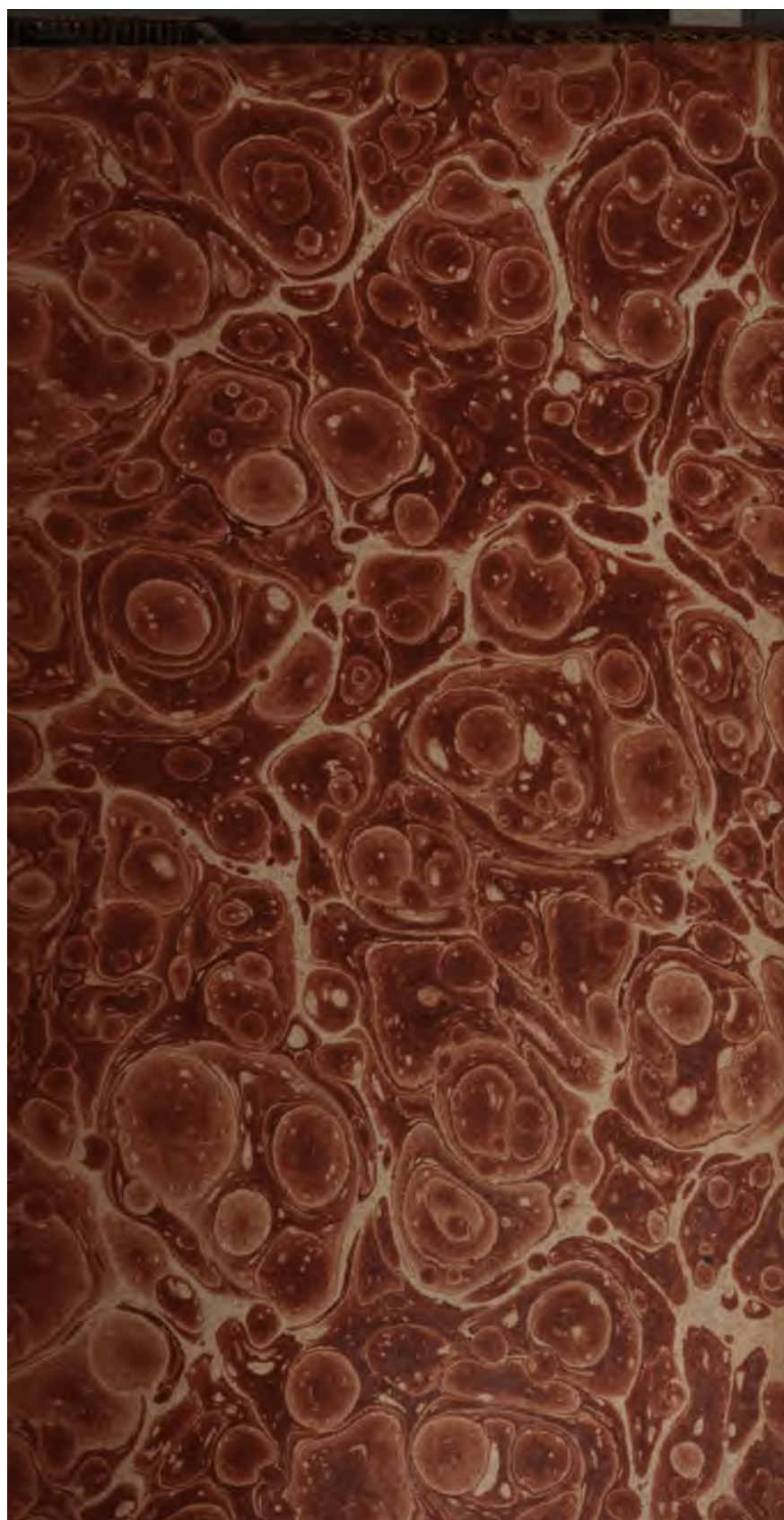


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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES SOWERBY, F.L.S.

VOL. III.

L O N D O N:

PRINTED BY J. DAVIS, CHANCERY-LANE.

And sold by the Proprietor, J. SOWERBY, at No. 2, Mead Place,
Lambeth; by Messrs. WHITE, Fleet-street; JOHNSON, St.
Paul's Church-yard; DILLY, in the Poultry; and by
all Bookfellers, &c. in Town and Country.

MDCCXCIV.

DIPSACUS fullonum.

Manured, or Fuller's Teasel.

TETRANDRIA Monogynia.

GEN. CHAR. *General calyx of many leaves ; partial superior, of one leaf. Receptacle chaffy. Seed-crown cup-shaped.*

SPEC. CHAR. *Leaves connected at the base, serrated. Scales of the receptacle hooked. General calyx reflexed.*

SYN. *Dipsacus fullonum. Linn. Syst. Veg. ed. 14. 143. Sm. Fl. Brit. 168. Huds. ed. 1. 49. With. 182. Hull. 33. ed. 2. 42. Linn. Sp. Pl. 140, β. Huds. ed. 2. 61, β.*

D. sativus. Ger. em. 1167. Raii Syn. 192.

HUDSON mentions this plant as growing about hedges. It may in the clothing counties, where it is cultivated for use in carding woollen cloth, escape from the fields, but we have



As 1849 published by J. E. Smith, London



DIPSACUS sylvestris.

Wild Teasel.

TETRANDRIA Monogynia.

GEN. CHAR. *General calyx* of many leaves; *partial* superior, of one leaf. *Receptacle* chaffy. *Seed-crown* cup-shaped.

SPEC. CHAR. Leaves opposite, serrated. Scales of the receptacle straight. General calyx inflexed, longer than the head of flowers.

SYN. *Dipsacus sylvestris.* *Linn. Syst. Veg. ed.* 14. 143. *Sm. Fl. Brit.* 168. *Hudf. ed.* 1. 49. *Witb.* 182. *Hull.* 33. *Relb.* 58. *Sibth.* 54. *Abbot.* 29. *Curt. Lond. fasc.* 3. t. 9. *Raii Syn.* 192.

D. fullonum α. *Linn. Sp. Pl.* 140. *Hudf.* 61.

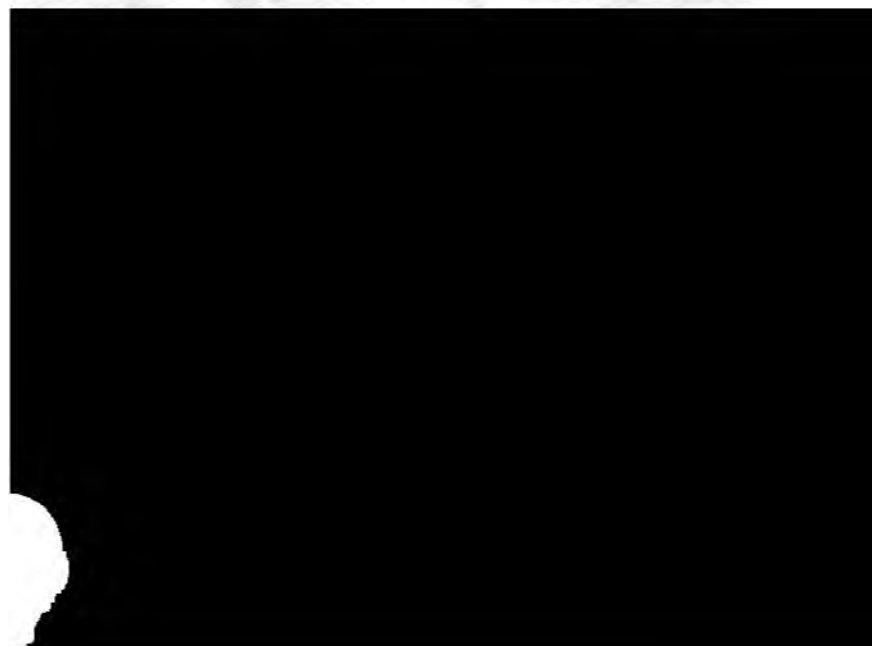
FREQUENT by road-sides, and on the banks of ditches, flowering in July.

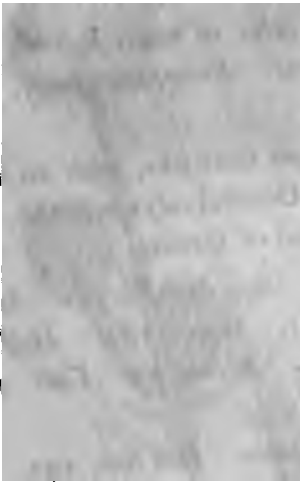
Root biennial. Stem about 4 feet high, straight, branched, hollow, angular and prickly. Leaves opposite, often joined at the base, oblong, serrated, bright green, veiny, prickly but



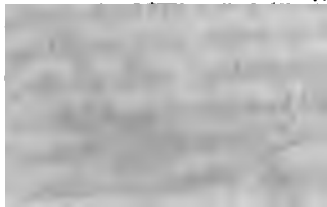


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DIPSACUS pilosus.

Small Teasel.

TETRANDRIA Monogynia.

GEN. CHAR. *General calyx* of many leaves; *partial* superior, of one leaf. *Receptacle* chaffy. *Seed-crown* cup-shaped.

SPEC. CHAR. Leaves on footstalks, with an appendage at each side. *General calyx* reflexed, equal in length to the head of flowers.

SYN. *Dipsacus pilosus.* *Linn. Sp. Pl.* 141. *Sm. Fl. Brit.* 169. *Huds.* 61. *With.* 182. *Hull.* 33. *Relb.* 59. *Sibth.* 54. *Abbot.* 29. *Curt. Lond. fasc.* 1. t. 10.

D. minor, seu *Virga pastoris.* *Raii Syn.* 192.

IN moist shady waste ground on a calcareous soil the Small Teasel or Shepherd's Staff sometimes occurs, but is far from being a general plant. It flowers in August and September.









SCABIOSA fuccisa.
Devil's-bit Scabious.

TETRANDRIA Monogynia.

GEN. CHAR. *General calyx* of many leaves ; partial double, superior. *Receptacle* chaffy or naked.

SPEC. CHAR. Corollas four-cleft, regular. Stem-leaves toothed. Heads of flowers nearly glo-
bular.

SYN. Scabiosa fuccisa. *Linn. Sp. Pl.* 142. *Sm. Fl. Brit.* 170. *Huds.* 62. *With.* 183. *Hull.* 33. *Relb.* 59. *Sibth.* 55. *Abbot.* 29. *Curt. Lond. fasc.* 3. t. 10.

S. radice succisâ, flore globofo. *Raii Syn.* 191.

THE species of Scabious represented in the annexed plate occurs very frequently and abundantly in grassy pastures that are somewhat moist, both on low commons and even on hilly spots, flowering from August to October inclusive.

Root perennial, oblong, abruptly bitten off at the lower end. Stem erect, round, leafy, bearing for the most part 3 or more flowers. Leaves dark-green, rather coriaceous, harsh and hairy; the radical ones ovate, bluntish and entire ; a pair or two on the stem often remotely toothed; the uppermost smaller and

entire. Flowers dark purple, blue (occasionally with white).





May 2, 1841. Published by J. S. Lowry, London.



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SCABIOSA arvensis.

Field Scabious.

TETRANDRIA Monogynia.

GEN. CHAR. *General calyx* of many leaves ; *partial* double, superior. *Receptacle* chaffy or naked.

SPEC. CHAR. Corollas 4-cleft, radiating. Leaves ~~spin~~pinatifid, cut. Stem bristly.

SYN. Scabiosa arvensis. *Linn. Sp. Pl.* 143. *Sm. Fl. Brit.* 170. *Hudf.* 62. *With.* 183. *Hull.* 33. *Relb.* 60. *Sibth.* 55. *Curt. Lond. fasc.* 4. *t.* 13. *Dicks. H. Sicc. fasc.* 12. 6.

S. major communior, folio laciniato. *Raii Syn.* 191.

COMMON in pastures, but more especially in corn-fields, where it flowers in July, mixed with the Cockle and the Great Ox-eye, contributing more to the ornament of the country than to the profit or honour of the farmer.

Root perennial, long, spindle-shaped, mostly branched. Stem





Antennaria dioica L. f. *Antennaria dioica* L. f. *Antennaria dioica* L. f.



639.



Noni repens L. *Indica* L. *Indica* L.

SCABIOSA columbaria.

Small Scabious.

TETRANDRIA Monogynia.

GEN. CHAR. *General Calyx* of many leaves; *partial* double, superior. *Receptacle* chaffy or naked.

SPEC. CHAR. Corollas five-cleft, irregular. Radical leaves ovate or lyrate, crenate; the rest pinnatifid; with linear segments.

SYN. *Scabiosa columbaria.* *Linn. Sp. Pl.* 143. *Sm. Fl. Brit.* 171. *Huds.* 62. *With.* 184. *Hull.* 33. *Relh.* 53. *Sibth.* 55. *Abbot.* 30. *Fl. Dan.* t. 314.

S. minor vulgaris. *Raii Syn.* 191.

PECULIAR to chalk, limestone or gravelly countries, but there not uncommon, flowering from June to August. It grows about the walls of Norwich, and we have received it from Yorkshire and Devonshire.

Root perennial, woody, tufted. Plant smaller and more

slender than the *S. caucensis*. Stem 12 or 18 inches high, erect.







SHERARDIA arvensis.

Blue Sherardia.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of 1 petal, funnel-shaped, superior.
 Seeds 2, each crowned with 3 teeth.

SPEC. CHAR. All the leaves whorled. Flowers
 terminal.

SYN. *Sherardia arvensis*. Linn. *Sp. Pl.* 149. *Sm. Fl.*
Brit. 171. *Huds.* 66. *With.* 185. *Hull.* 37.
Relb. 63. *Sibth.* 57. *Abbot.* 32. *Curt. Lond.*
fasc. 5. t. 13. *Dicks. H. Sisc. fasc.* 15. 1.

Rubeola arvensis repens cærulea. *Raii Syn.* 225.

THE *Sherardia*, or Little Field Madder, as it has been commonly called, though it has neither the character nor properties of Madder, is frequent in fallow fields, and indeed even among growing corn, more particularly on a light or gravelly soil, flowering throughout the summer.

The root is fibrous and annual. Herb generally hairy. Stems several, branched, leafy, angular, spreading in every direction. Leaves about 6 in each whorl, elliptical or obovate, pointed, entire, roughest on the edges and keel, spreading. Flowers in a small terminal umbel enveloped with the uppermost whorl, which generally consists of 7 or 8 leaves. Calyx superior, of 2 trifid permanent leaves, at length forming a crown to the fruit. Corolla purplish-blue, with a slender tube gently tapering to the base, and a regular four-cleft limb. Stamina slender, shorter than the lobes of the corolla. Fruit of 2 dry seeds, mostly roughish.

Dillenius certainly showed his judgment in making this a distinct genus from all the other stellate plants, and it is well characterised by the 2 trifid leaves of the calyx, a mark which Jussieu (possibly from an error of the press) seems to overlook.





ASPERULA odorata.

Sweet Woodruff or Woodroof.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one funnel-shaped petal, superior. Seeds 2, globose.

SPEC. CHAR. Leaves eight in a whorl, lanceolate. Tufts of flowers on stalks. Fruit bristly.

SYN. *Asperula odorata*. Linn. *Sp. Pl.* 150. *Sm. Fl. Brit.* 172. *Huds.* 66. *With.* 185. *Hull.* 37. *Relb.* 64. *Sibtb.* 57. *Abbot.* 32. *Curt. Lond. fasc.* 4. t. 15. *Dickf. H. Sicc. fasc.* 8. 7.

Asperula. Raii Syn. 224.

ALMOST every dry mountainous wood abounds with the Woodruff, nor is it unfrequent in the more level counties on a calcareous soil. It flowers in May.

Roots perennial, creeping among dead leaves and the more light and friable vegetable mould, and throwing up numerous, upright, simple, annual, smooth, angular, leafy stems, about a





ASPERULA cynanchica.

Squinancy-wort.

TETRANDRIA Monogynia.

GEN. CHAR. *Corolla* of one funnel-shaped petal.
Seeds two, globose.

SPEC. CHAR. Leaves linear, in fours, except the upper ones, which are opposite. Stem somewhat erect. Flowers four-cleft.

SYN. *Asperula cynanchica*. *Linn. Sp. Pl.* 151. *Huds. Fl. An.* 66. *Wilsb. Bot. Arr.* 159. *Relb. Cant.* 64.

Rubeola vulgaris quadrifolia lævis, floribus purpurantibus. *Raii Syn.* 225.

FOUND on dry, chalky, sunny banks, in most parts of England, flowering in the middle of summer. Our specimens came from Dartford. The root is perennial, but does not thrive well in a garden, requiring, probably, like many other plants, its natural shelter of herbage. The stems are mostly

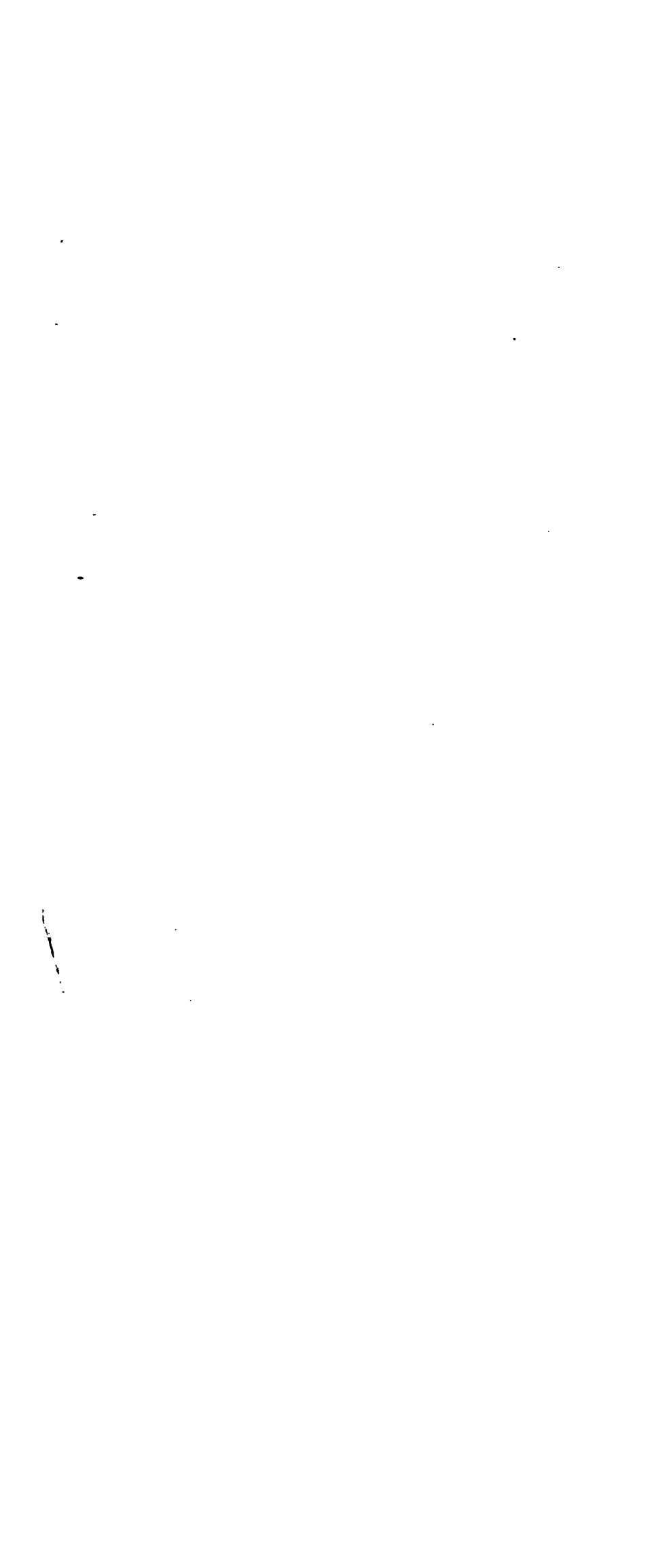
procumbent, erect at their extremities only. The leaves





Colony J. L. P. 1791





G A L I U M cruciatum.

Cross-wort.

T E T R A N D R I A *Monogynia.*

GEN. CHAR. *Cor.* of one petal, flat. *Seeds* two, roundish.

SPEC. CHAR. Leaves in fours, ovate, hairy. Stem simple above, hairy. Bunches of flowers lateral, with two leaves. Flowers polygamous. Fruit smooth.

SYN. *Galium Cruciatum.* *Scop. Carn.* 100. *With. Bot. Arr.* 149.

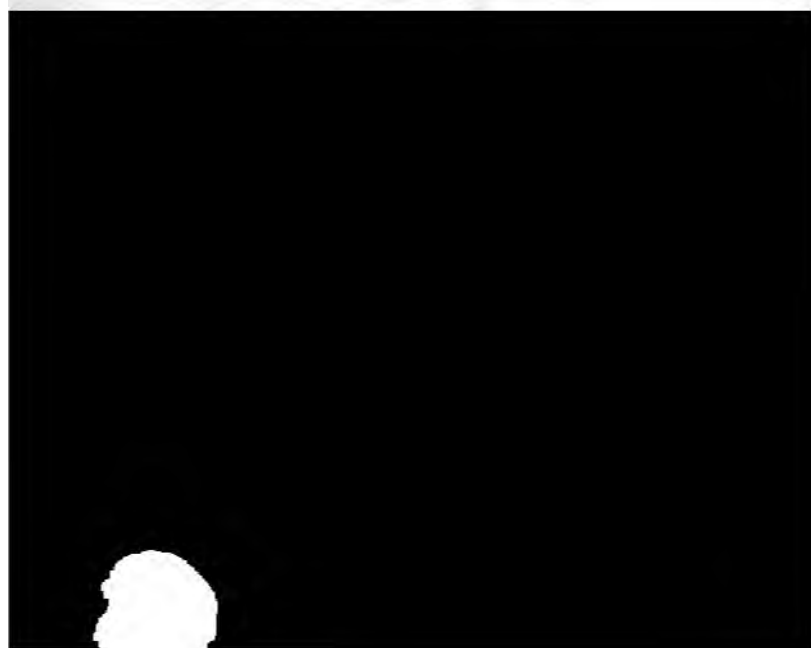
Valantia Cruciatum. *Linn. Sp. Pl.* 1491. *Huds. Fl. An.* 441. *Relb. Cant.* 377.

Cruciatum. *Raii Syn.* 223.

THIS grows every where about hedges and thickets, flowering early in summer. The root is perennial, creeping and slender. Stems branched at their base, but perfectly simple in the upper part, weak, and resting against bushes, quadrangular, very hairy, jointed, and bearing at every joint four ovate, entire, soft, hairy leaves, from whose bosoms all the way up the stem arise several slender, forked, many-flowered peduncles, each furnished with two small leaves at its first divarication.







[1857]

G A L I U M palustre.

White Water Bed-straw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat, superior. Seeds 2, roundish.

SPEC. CHAR. Leaves four in a whorl, obovate, obtuse, unequal in size. Stems weak and spreading, branched in their upper part.

SYN. Galium palustre. *Linn. Sp. Pl.* 153. *Sm. Fl. Brit.* 174. *Huds.* 67. *With.* 187. *Hull.* 35. *Relh.* 55. *Sibth.* 58. *Abbot.* 33.

Molluginis vulgatoris varietas minor. *Raii Syn.* 224.

VERY generally found in ditches among reeds, and umbelliferous, or other, tall water plants, on which its weak stems lean for support, and so rise to the height of 3 or 4 feet. Otherwise they are diffuse and of less extent. They are much branched, quadrangular, generally smooth, sometimes rough-edged. Leaves four in a whorl, spreading, linear inclining to obovate, obtuse, smooth, except the edges of the upper ones, which are rough, but not toothed nor serrated. It is peculiar to this species to have two opposite leaves smaller and two larger in the uppermost whorls. Flowers white, in large, loose, three-cleft and somewhat umbellate panicles, with two leaves only at their base, and merely a small solitary one occasionally higher up. Stalks smooth. Calyx scarcely any. Segments of the corolla broad, acute, but not pointed nor awned. Fruit small, dotted, not rough, rarely perfected.

The roots are perennial and somewhat creeping. The flowers last throughout July and August.

1857.



Published March 1858 by James Sowerby London.



[2206]

G A L I U M Witheringii.

Rough Heath Bed-straw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat, superior. Seeds 2, roundish.

SPEC. CHAR. Leaves about five in a whorl, widely spreading, lanceolate, slightly awned, fringed with bristles. Stem upright, slightly branched, rough.

SYN. Galium Witheringii. Sm. Fl. Brit. 174. Hull. ed. 2. 44.

G. montanum. With. 187. t. 28; not of Linnæus.

DR. WITHERING found this *Galium* on high but boggy parts of Handsworth heath near Birmingham, and took it for the Linnæan *montanum*, which being a very different plant, it was thought right to commemorate the discoverer of the new one in its specific name. We have indeed the same in Mr. Rose's herbarium, mistaken for *uliginosum*, but have never gathered any ourselves. The Bishop of Carlisle favoured us with specimens gathered last July in Bank Meadow, close to his Lordship's fine seat of Rose Castle, Cumberland. It grows in a moist but rather barren spot, not smothered with high grass, near *Linum catharticum*, small *Agrostis vulgaris*, and some *Potentilla anserina*.

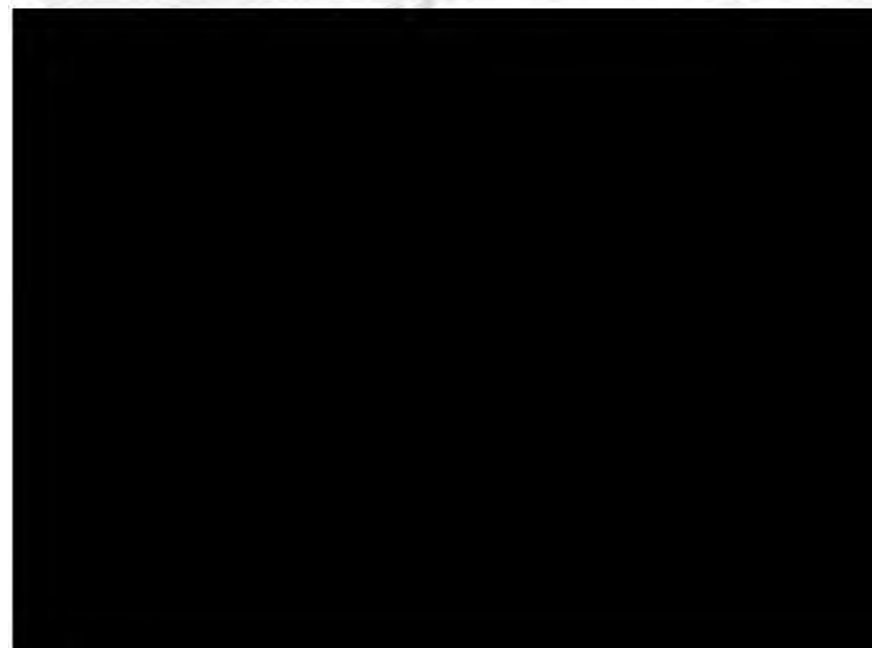
The stem, though upright, is weak, about a foot high, either quite simple, or bearing a few lateral branches; its edges rough with deflexed hooks. Leaves about 5 in a whorl, sometimes 6, on the weak parts 4, widely spreading or deflexed, small, elliptic-lanceolate, often tipped with a minute bristly point, their edges fringed with short bristles or hooks pointing towards the apex. Panicles small, terminal, 3-forked, their stalks smooth except the main one. Buds purplish. Corolla cream-coloured when expanded. Anthers at first of a pale yellow green, but they directly turn red, reddish, or red brown. Style short, cloven. Stigmas globular, green. Germen and fruit smooth.

This completes our descriptions of the genus *Galium*, as far as hitherto discovered in Britain; but Switzerland and France afford several kinds which might be expected to grow with us, and which perhaps have been overlooked, they being often very similar to each other; and there are few genera whose synonymy is more difficult.

2206



(111111) submitted by J. K. C. to London



GALIUM faxatile.

Smooth Heath Bed-straw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat, superior. *Seeds 2, roundish.*

SPEC. CHAR. Leaves six in a whorl, obovate, obtuse, tipped with a small point. Stem much branched, prostrate, smooth. Fruit granulated.

SYN. *Galium faxatile.* *Linn. Sp. Pl.* 154. *Sm. Fl. Brit.* 175.

G. montanum. *Huds* 67. *Relb.* 66.

G. procumbens. *With.* 187. *Hull.* 36. *Sibth.* 59. *Abbot.* 34.

Mollugo montana minor, Galio albo similis. *Raii Syn.* 224.

MR. HUDSON published this plant by the name of *G. montanum* in 1762, and the same year Linnæus described a very different species under the same name. It becoming therefore necessary to give ours a new denomination, Dr. Withering and his followers have called it *procumbens*, none

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G A L I U M uliginosum.

Rough Marsh Bed-straw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat, superior. Seeds 2, roundish.

SPEC. CHAR. Leaves six in a whorl, lanceolate, pointed, rigid, their edges rough with reflexed prickles. Fruit smooth, smaller than the corolla.

SYN. Galium uliginosum. Linn. Sp. Pl. 153. Sm. Fl. Brit. 175. Huds. 68. With. 188. Hull. 36. ed. 2. 44. Relh. 56. Sibth. 58. Abbot. 33.

Aparine palustris minor parisiensis, flore albo. Dill. in Raii Syn. 225.

OF this little *Galium* there is scarcely a certain figure extant, for those cited in Willdenow's *Sp. Pl.* are equally distinct from it and from each other. J. Bauhin's *Rubia quædam minor*, v. 3. 716, is too imperfect to be at all relied on.

Our plant is not uncommon in Norfolk, growing in wet ditches and boggy places among reeds, water-mints, &c., and flowering in July and August. The roots are small, creeping, perennial. Stems a foot or more in height, branched, rough, so very weak and brittle, that as the leaves stick to every thing around them and to each other, good specimens are with difficulty extricated. The leaves are 6 in a whorl, variously spreading, light green, lanceolate inclining to obovate, tipped with a small bristle, their edges and keel rough with minute prickles pointing backwards, while a simple row of similar prickles often occurs on the upper side near the margin, and these always point forwards. Flowers small, white, on terminal, cloven stalks, which are smooth and usually 3 together. Fruit small, dotted, but scarcely rough, and never, as we have observed, hairy.

1972



Jan 1 1869 Published by J. & S. Sowerby London



G A L I U M erectum.

*Upright Bed-straw.**TETRANDRIA Monogynia.*

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* 2, roundish.

SPEC. CHAR. Leaves about eight in a whorl, lanceolate, pointed, their edges rough with prickles pointing forward. Stem smoothish, weak. Fruit smooth.

SYN. *Galium erectum.* *Huds.* 68. *Sm. Fl. Brit.* 176. *With.* 189. *Hull.* 36. *ed.* 2. 44. *Relh.* 56. *Abbot.* 34. *Dicks. H. Sicc. fasc.* 17. 2.

GATHERED by Mr. W. Borrer in dry hedges at Portslade, Sussex, flowering the middle of June. Mr. Dickson says it grows in dry pastures. The late Mr. Crowe noticed it on a bushy part of Heydon common, Norfolk, which is rather moist, and this accords with Mr. Relhan's account. We find no mention of this plant in the Botanist's Guide, which we presume is owing to its having escaped the notice of most observers, and not to its being supposed too frequent for admission into that useful book.

The roots are perennial, small and slender. Stems upright when they meet with support, but weak and flaccid, much branched, leafy, paniced, many-flowered, often quite smooth, sometimes more or less clothed with soft hairs. Leaves 6, 7 or 8 in a whorl, lanceolate, bristle-pointed, edged with prickly serratures all directed forward. Panicles terminal and lateral, compound, three-forked, leafy, with slender smooth stalks, bearing numerous white flowers, the segments of whose corolla are sharply pointed. Stamens short, erect. Fruit small, smooth.

Hudson mistook this for *G. austriacum* of Jacquin, which, according to specimens sent by himself, is very different, having linear and much longer leaves, with smooth edges.

2087



(This map published by J. Sowerby London)



[1875]

GALLUM MICHIGAN

Henry Ford's Book

FORWARD BY

THE CHAIRMAN OF THE BOARD OF DIRECTORS

AND THE CHAIRMAN OF THE BOARD OF MANAGERS

OF THE CHAIRMAN OF THE BOARD OF MANAGERS

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GALIUM verrucosum.

Warty-fruited Bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat, superior. Seeds 2, roundish.

SPEC. CHAR. Leaves six in a whorl, lanceolate, with marginal prickles pointing forward. Flower-stalks axillary, three-flowered. Fruit warty, drooping.

SYN. Galium verrucosum. Sm. Prod. Fl. Græc. Sibth. v. 1. 93.

G. tricornè. Don Herb. Brit. fasc. 5. 103.

Valantia Aparine. Linn. Sp. Pl. 1491.

Aparine semine coriandri saccharati. Tourn. Inst. 114. Vaill. Paris. t. 4. f. 3, b.

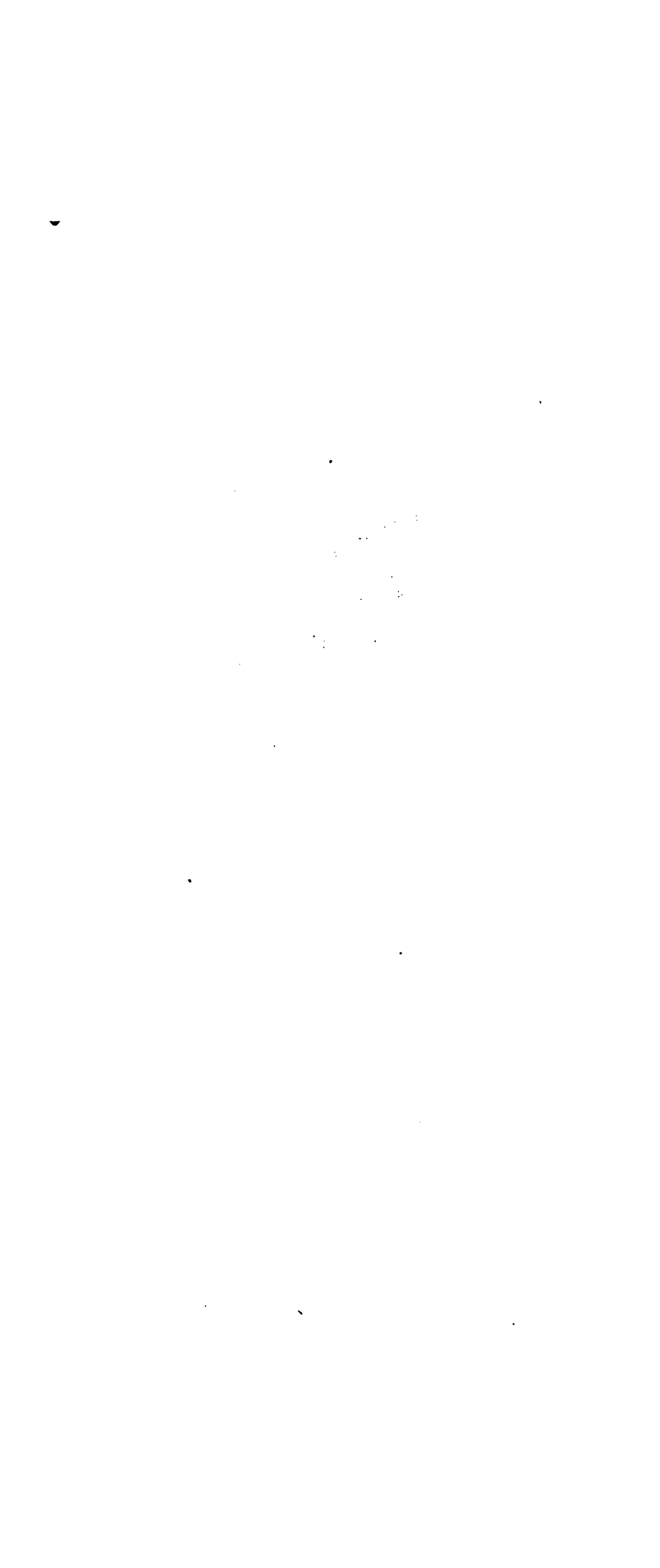
WHETHER this species of *Galium*, confounded by almost all botanists with our *tricornè*, t. 1641, has ever been gathered in Britain before Mr. G. Don observed it in corn-fields in the Carse of Gowrie, Scotland, we have no sure means of knowing, but we are certain of the above synonyms. It has been observed near Malton, Yorkshire, by Mr. R. Miller, and is annual, flowering from June to August.

Root slender, turning reddish when dried, and retaining the cotyledons long at its summit. Stems several, somewhat branched, their angles rough with reflexed prickles. Leaves six in each whorl, their marginal prickles pointing all forward, not backward; by which invariable character, and the large pyramidal tubercles that cover the fruit, and give it the appearance of a coriander comfit, this species is clearly distinguished from *tricornè*. Linnæus referred it to *Valantia* because some flowers have no pistil, but the generic characters in the fruit of real *Valantiæ* are strikingly peculiar, and quite unlike those of *Galium*.

2173



Centotheca d. ex J. P. R. L. L.



[1641]

GALIUM tricorné.

*Corn Bedstraw.**TETRANDRIA Monogynia.*

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* 2, roundish.

SPEC. CHAR. Leaves about eight in a whorl, their margin, as well as the stem, rough with reflexed prickles. Flower-stalks axillary, three-flowered. Fruit granulated, drooping.

SYN. *Galium tricorné.* *With. ed.* 2, 153. *Sm. Fl. Brit.* 176. *Relh.* 56.

G. spurium. *Huds.* 68. *With.* 190. *Sibth.* 59. *Abbot.* 33.

Valantia Aparine. *Mart. Rust. t.* 122.

Aparine semine læviore. *Raii Syn.* 225.

GATHERED in June 1806, by Mr. D. Turner and Mr. W. Borrer, in fields near Carisbrook, Isle of Wight. It has been found occasionally in various parts of England, in dry chalky fields, and generally taken for *G. spurium* of Linnæus, a species distinct from this, which we have received from Mr. G. Donn, who found it near Forfar, since the publication of *Fl. Brit.* We hope to obtain living specimens, in order to publish a figure at some future opportunity.

G. tricorné has a small annual root, producing several weak simple leafy stems, whose angles are rough with prickles pointing downwards. The leaves grow commonly 8 in a whorl, and their edges, sometimes their keels, are rough with similar prickles. Flowerstalks axillary, solitary, alternate, scarcely so long as the leaves, prickly in the same manner, three-cleft, bearing mostly 3 flowers and a pair of bractæas. The flowers are cream-coloured, rarely all fertile. Stalks curved downward after flowering. Fruit rather large, granulated with little points, and looking as if it had been shaved with a razor.



GALIUM spurium.

Smooth-seeded Corn Bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat, superior. Seeds 2, roundish.

SPEC. CHAR. Leaves about eight in a whorl, the margin, as well as the stem, rough with reflex prickles. Flower-stalks axillary, many-flowered, cymose. Fruit smooth, erect.

SYN. Galium spurium. Linn. Sp. Pl. 154.

G. n. 724. Hall. Hist. v. 1. 318. Nomencl. 66.

Aparine vulgaris, semine minori. Vaill. Paris. 1 t. 4. f. 4?

MR. GEORGE DON discovered this plant in cornfields about Forfar, North Britain, but sparingly, as mentioned t. 1641. We have been favoured by Mr. Turner with a garden specimen, which precisely accords with Mr. Don's wild ones, whence our seeds were taken, as well as with those in the Linnæan herbarium. Yet the *G. spurium* of Willdenow, Roth, and most of the authors they cite, is no other than our *tricornis*, t. 1641. Haller indeed well knew the present plant and he is perhaps right in quoting Vaillant as above; but so the fruit is liable to be occasionally hairy, a variation which we have indeed observed in other species of the genus.

G. spurium is annual, flowering in June and July. Its habit much resembles *G. Aparine*, t. 816, but the leaves are sometimes shorter. They are from 6 to 8 or 9 in a whorl, their edges and keel rough with recurved prickles. The stem is rough with similar prickles, and quadrangular. Flower-stalks axillary, opposite, rough, corymbose, each bearing 6 or 7 green flowers, all more or less fertile, accompanied with 1 or 2 floral leaves. Germen quite smooth. Ripe fruit of 2 brown kidney-shaped lobes or seeds, with a central cavity between them; their surface smooth and even, except a slight ruggedness which seems to be caused by drying only. The fruitstalks are upright or spreading, not curved downward.—*Valantia Aparine* of Linnæus, *Galium verrucosum* of Prod. Fl. Græc. 93, has the prickles of its leaves directed forwards, the fruit coarsely tuberculated, and recurved.

1871



See also, Plate 7, fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.



G A L I U M pufillum.

Least Ladies-bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat. Seeds two, roundish.

SPEC. CHAR. Leaves about eight in a whorl, rough, linear, pointed. Flower-stalks forked. Fruit smooth.

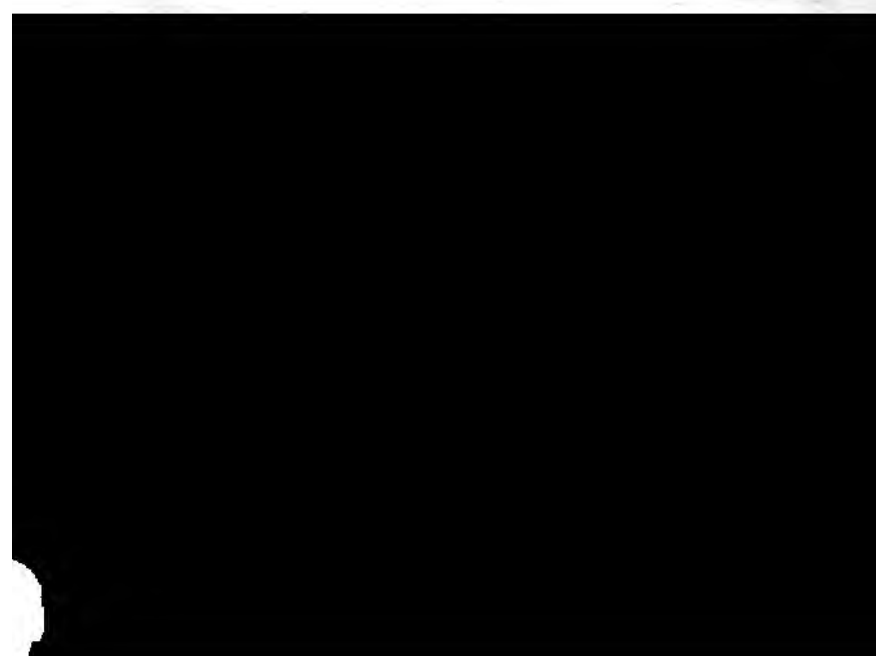
SYN. Galium pufillum. Linn. Sp. Pl. 154. Hudf. Fl. An. 69. With. Bot. Arr. 154. Villars Dauph. v. 2. 324. t. 8.

NEITHER Ray nor Dillenius seems to have noticed this species of Galium, unless it be what the latter intended by *Galium album supinum multicaule*, Rupp. Fl. Jen. 4. Raii Syn. 224. It does not well agree with Ruppian's description, which is however a very indefinite one, and it may nevertheless be the plant of Dillenius. This specimen was gathered in July last by Dr. Smith, at Matlock Bath, Derbyshire, where it grows abundantly, thriving much in the calcareous rocky soil originally deposited by the Matlock water. Mr. Hudson mentions the neighbourhood of Kendall in Westmoreland as its place of growth.

The root is perennial. Stems square, extremely numerous, from three to ten inches high, forming large tufts covered with innumerable milk-white flowers, very conspicuous at a distance. The leaves are tipped with a short pale bristle, and, as well as the stem, are generally, but not always, rough with short spreading hairs. They are not exactly linear, but rather lanceolate, from six to eight, or even nine, in a whorl, equally spreading; the lower ones so close together that they are almost imbricated; but that is by no means peculiar to this species. We have therefore omitted it in the specific character.

Our specimens agree precisely with those in the Linnæan Herbarium from Mons. Gerard, except that his are rather less. There is no certain figure of this Galium extant, except the indifferent one of Mons. Villars.





G A L I U M verum.

Yellow Bed-straw.

T E T R A N D R I A *Monogynia.*

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* two, roundish.

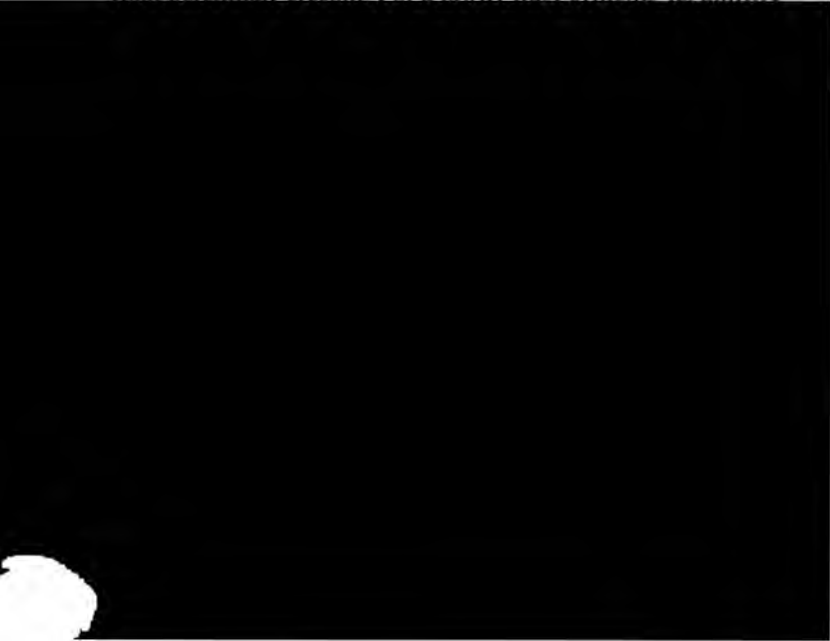
SPEC. CHAR. Leaves 8 in a whorl, linear, channelled, entire, rough. Flowers in dense panicles. Fruit smooth.

SYN. *Galium verum.* *Linn. Sp. Pl.* 155. *Sm. Fl. Brit.* 178. *Huds.* 69. *With.* 191. *Hull.* 36. *Relb.* 66. *Sibth.* 59. *Abbot.* 34. *Curt. Lond. fasc.* 6. *t.* 13. *Mart. Fl. Russt. t.* 54. *Dicks. H. Sicc. fasc.* 17. 4.

G. luteum. *Raii Syn.* 224.

FREQUENT in the borders of dry fields, and on little bushy hills, which it enlivens with a profusion of bright-yellow flowers, diffusing a honey-like rather oppressive scent, in the months of July and August.

Root perennial, creeping, of a tawny hue, evincing its affinity



660.



Thymus serpyllifolius L.



[1673]

G A L I U M Mollugo.

*Great Hedge Bedstraw.**TETRANDRIA Monogynia.*

GEN. CHAR. Cor. of one petal, flat, superior. Seeds 2, roundish.

SPEC. CHAR. Leaves eight in a whorl, elliptical, bluntish, pointed, rough-edged. Flowers in loose spreading panicles.

SYN. Galium Mollugo. Linn. Sp. Pl. 155. Sm. Fl. Brit. 178. Huds. 68. With. 189. Hull. 36. Relh. 57. Sibth. 59. Abbot. 34. Fl. Dan. t. 455.

Mollugo vulgator. Raii Syn. 223.

β Galium scabrum. With. 190, but not of Jacquin.

THE tallest of our native species of *Galium*. It grows, not unfrequently, among bushes or upon hedges, rising to 3 or 4 feet or more in height, supporting its weak stem among their branches, and in return decorating them with a profusion of flowers throughout July and August. On open chalky hills it is of more humble growth.

The root is perennial and creeping. Stems flaccid, branched, leafy, swelling and pale above the joints, generally smooth; often a little downy; sometimes (as well as the leaves) rather hairy, in which case it is Dr. Withering's *G. scabrum*. Leaves 8 in a whorl, elliptic-lanceolate, or obovate, tipped with a small point, their edges rough with teeth pointing forwards. Panicles terminal, numerous, spreading. Flowers abundant, pure white, the segments of their corolla tipped each with a little erect point. Fruit small, smooth, often abortive.





100

G A L I U M anglicum.

Small Ladies-bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. Cor. of one petal, flat. Seeds two, roundish.

SPEC. CHAR. Leaves about six in a whorl, lanceolate, pointed, ciliated with prickles. Stems straggling, rough. Flower-stalks cloven. Fruit without hairs.

SYN. Galium anglicum. Hudf. Fl. An. 69. With. Bot. Arr. 153.

G. parisiense. Relb. Cant. 67. Linn. Sp. Pl. 157?

Aparine minima. Raii Syn. 225. t. 9. f. 1.

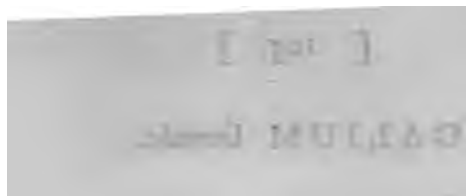
SENT from Cambridgeshire by the Rev. Mr. Hemsted. It is found also in Norfolk and Suffolk, though very rarely, for the most part upon walls in a dry sandy soil, flowering in June and July, after which the plant is soon dried up and perishes.

Root small, annual. Stems several, spreading, branched, square, their angles rough with reflexed bristles. Leaves small, about 6 in a whorl, reflexed, lanceolate, pointed, their edges, and sometimes their upper surface, rough with bristles pointing forwards. Flower-stalks terminal, slender, smooth, forked, with a pair of leaves at their first divarication, and here and there a minute solitary leaf above. Flowers pale greenish yellow, very small, with pointed ribbed petals. Germen and fruit destitute of hairs, but when magnified they appear rough with minute tubercles.

This may possibly be, as Dr. Stokes suspected, merely a variety of the *G. parisiense* of Linnæus; for no difference is discoverable between his original specimens and ours, except the fruit of the former being thickly clothed with prominent hairs. Whether the abovementioned tubercles on the fruit of *G. anglicum* may, in any circumstances, produce such hairs, has not yet been ascertained. In the mean while we here exhibit what is undoubtedly Mr. Hudson's plant, as well as Ray's, that there may be no uncertainty about that part of the question in future.







Cross-section of the ...

TETRAPOD ...

Gen. ...
Car. of one ...

SPEC. ... leaves in ...
not ...

Syn. ...
The ...

Mollusca ...

THE ...
being ...

GAL IUM boreale.

*Cross-leaved Ladies Bedstraw.**TETRANDRIA Monogynia.*

GEN. CHAR. Cor. of one petal, flat. Seeds two, roundish.

SPEC. CHAR. Leaves in fours, lanceolate, three-nerved, not hairy. Stem nearly erect. Seeds bristly.

SYN. Galium boreale. *Linn. Sp. Pl.* 156. *Huds. Fl. An.* 70. *With. Bot. Arr.* 156.

Mollugo montana erecta quadrifolia. *Raii Syn.* 224.

THE Galium before us is one of the most easily determined, being distinguished from the common *Aparine* by having four leaves only at each joint, and from every other British species by its hairy or bristly fruit. It grows only in mountainous countries, in rocky shady places about rivers, very plentifully at Kirkby Lonsdale, and in other parts of Westmoreland, as well as in Scotland. Mr. Robson sent this specimen from the county of Durham.

The root is long and slender, running deep among the stones, tinged with red, which colour it communicates to woollen. Stems much branched, rough to the touch as well as the leaves, though not hairy. The leaves are pale beneath, blunt, and very accurately three-nerved. Copious panicles of milk-white flowers terminate the stem in July, at first sight appearing like those of Galium Mollugo, especially when growing among bushes. The hairs on the fruit are slightly curved upwards, and of a whitish colour.



Thymus serpyllifolius



THE HISTORY OF THE CITY OF BOSTON

FROM THE FIRST SETTLEMENT TO THE PRESENT TIME

By SAMUEL JOHNSON, LL.D.
OF THE UNIVERSITY OF OXFORD.
AND
By JOHN ADAMS, ESQ.
OF THE BAR AT BOSTON.
IN TWO VOLUMES.
LONDON: Printed by J. JOHNSON, in Pall-mall.
1790.

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GALIUM Aparine.

Goose-grass, or Cleavers.

TETRANDRIA Monogynia:

GEN. CHAR. Cor. of one petal, flat, superior. Seeds 2, roundish.

SPEC. CHAR. Leaves eight in a whorl, lanceolate, keeled, rough, fringed with reflexed prickles. Stem weak. Fruit bristly.

SYN. Galium Aparine. *Linn. Sp. Pl.* 157. *Sm. Fl. Brit.* 180. *Huds.* 70. *With.* 192. *Hull.* 36. *Relb.* 67. *Sibth.* 60. *Abbot.* 34. *Curt. Lond. fasc.* 2. t. 9. *Mart. Fl. Ruft.* t. 104. *Woodv. Suppl.* t. 269. *Dicks. H. Sicc. fasc.* 17. 3. Aparine. *Rati Syn.* 225.

THIS grows on every hedge, and is well known by the facility with which it adheres to the hands or clothes of such as go in the way of it. The ripe seeds especially hang to the coats of animals, and are thus widely dispersed. Most truly has Linnæus observed, in one of his excellent dissertations, that plants so furnished with the means of sticking to animals, and which therefore are likely finally to be scattered about





1

1

RUBIA peregrina.

Wild Madder.

TETRANDRIA Monogynia.

GEN. CHAR. *Cor.* of one petal, bell-shaped, superior.
Berries 2, each with a single seed.

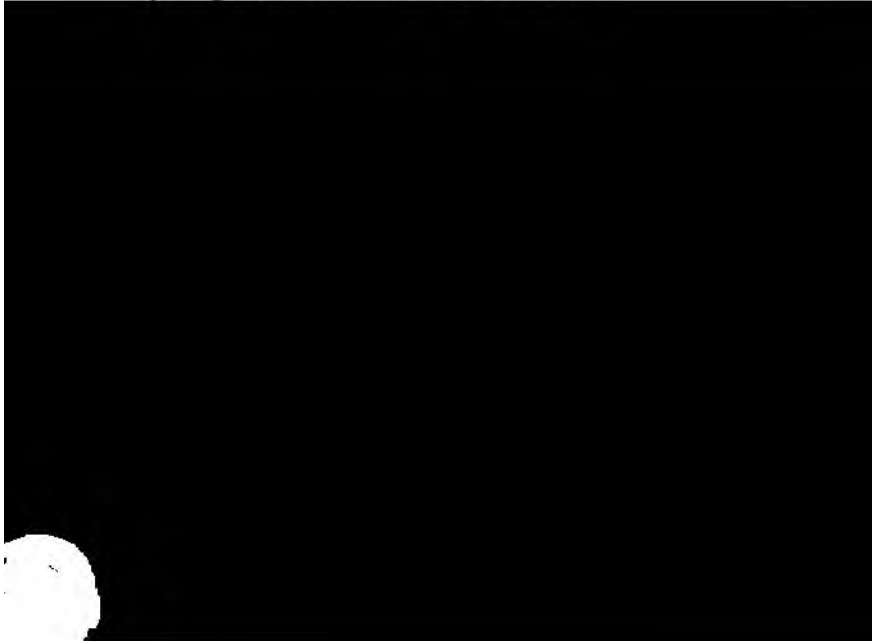
SPEC. CHAR. Leaves about four in a whorl, elliptical;
 shining and smooth on their upper side. Flowers
 five-cleft.

SYN. *Rubia peregrina.* *Linn. Sp. Pl.* 158. *Sm. Fl.*
Brit. 181. *Hudsf.* 65.

R. tinctorum. *With.* 193. *Hull.* 35.

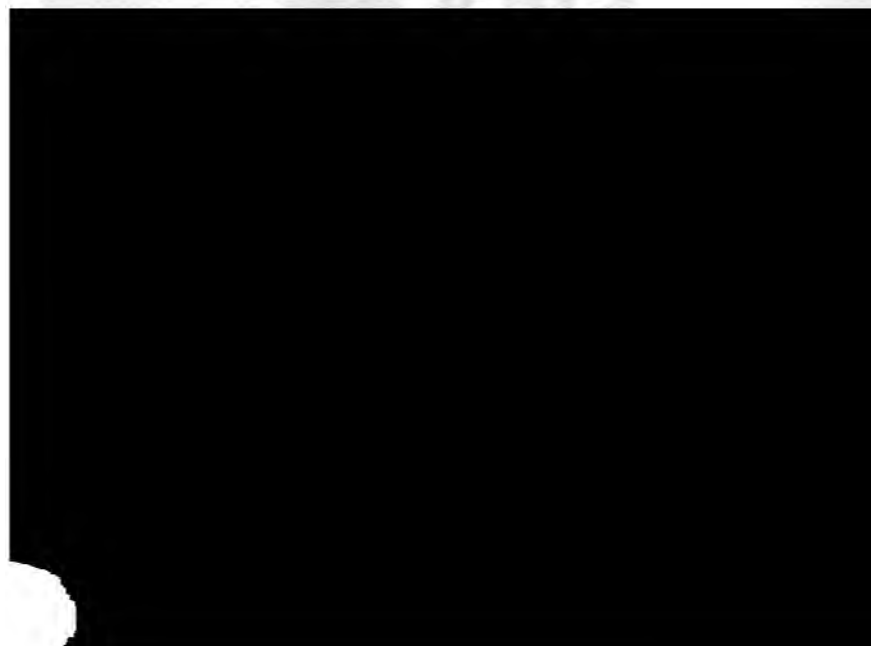
R. sylvestris aspera, quæ *sylvestris* Dioscoridis. *Raii*
Syn. 223.

THE Wild Madder is not unfrequent in South Wales, Cornwall, Devonshire, St. Vincent's rocks Bristol, and some few other places in the south-west part of England. It grows among bushes on a rich or loamy soil, flowering in July, and ripening its berries rather late in the autumn.





Hand-colored by J. Purdy Boston.





EXACUM filiforme.

Least Gentianella.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* in 4 segments. *Cor.* salver-shaped, with an inflated tube. *Caps.* with 2 furrows, 2 cells, and many seeds, bursting at the top. *Stigma* capitate.

SPEC. CHAR. Leaves sessile. Stem filiform, forked. Flowers on long footstalks.

SYN. *Gentiana filiformis.* *Lim. Sp. Pl.* 335. *Huds. Fl. An.* 103. *With. Bot. Arr.* 263. *Fl. Dan. t.* 324. *Centaurium palustre luteum minimum nostras. Raii Syn.* 286.

THIS very uncommon and curious little flower was sent us by Dr. Pulteney from Dorsetshire, being found there, as well as in Cornwall, not very sparingly, in boggy situations. It is an annual, and flowers in July, ripening its minute seeds in August.

Root fibrous, small and whitish. Stem from two to four inches high, erect, round, slender, more or less branched in a forked manner, sometimes from the very bottom; but the lateral branches have seldom strength enough to become again forked, bearing only a pair of leaves about their middle, where the subdivision would have been. Leaves opposite, lanceolate, somewhat foetulate, entire, small, and few in number, chiefly three







PLANTAGO major.

Greater Plantain.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Cor.* 4-cleft, inferior; its limb reflexed. *Stamina* very long. *Caps.* with 2 cells, bursting all round.

SPEC. CHAR. Leaves ovate, smoothish, somewhat toothed, with longish footstalks. Stalk round. Flowers imbricated. Seeds numerous.

SYN. *Plantago major.* *Linn. Sp. Pl.* 163. *Sm. Fl. Brit.* 182. *Huds.* 63. *With.* 195. *Hull.* 34. *Relh.* 59. *Sibth.* 56. *Abbot.* 30. *Curt. Lond. fasc. 2. t. 11.*

P. latifolia vulgaris. *Raii Syn.* 314. n. 1. 3 and 4.

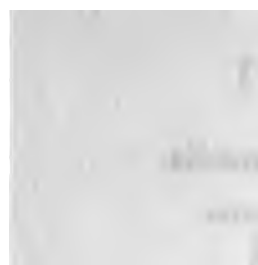
FEW plants are more common than the Greater Plantain, in pastures, waste or cultivated ground, and even in places much trodden upon. It varies greatly in size according to the soil, and flowers at almost all seasons in mild weather.

Root perennial, consisting of numerous long fibres. Leaves radical, upright or spreading, on channelled, ribbed footstalks, (which vary in length, and are sometimes very long,) ovate, broad, more or less toothed or waved, nearly smooth, furnished with 7 or 9 ribs. Stalks several, longer than the leaves, erect, simple, round, smooth or downy. Spike long, slender, acute, of innumerable closely imbricated flowers. Corolla and filaments white. Antheræ incumbent, reddish. Style and stigma simple and downy. Capsule membranous, each cell containing several seeds, as Mr. Curtis very justly observes. The seeds are eaten by small birds, and are frequently given to those kept in cages. The juices of the plant are slightly astringent and mucilaginous, but no great dependance is at present placed on its healing powers.



Arisaema L. f. *Pubescens* L. f. *Pubescens* L. f. *Pubescens* L. f.





PLANTAGO media.

Hoary Plantain.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Cor.* 4-cleft, inferior; its limb reflexed. *Stamina* very long. *Caps.* with 2 cells, bursting all round.

SPEC. CHAR. Leaves ovate, downy, depressed, with very short footstalks. Stalk round. Spike cylindrical. Seeds solitary.

SYN. *Plantago media.* *Linn. Sp. Pl.* 163. *Sm. Fl. Brit.* 183. *Huds.* 63. *With.* 196. *Hull.* 34. *Relh.* 59. *Sibth.* 56. *Abbot.* 31. *Curt. Lond. fasc.* 4. *t.* 14.

P. major incana. *Raii Syn.* 314.

THIS is extremely common, and not unornamental on dry chalky hills and pastures, flowering throughout the summer. In lawns on a dry soil it is often a great nuisance, occupying much space, and leaving unpleasant vacancies when eradicated. The Rev. Mr. Watts of Ashill, who is possessed of one of the finest grass-plats in England, has found it worth while to apply a drop of oil of vitriol on the crown of each of the roots of this plant, to destroy it effectually.

The root is perennial, very large and woody. Leaves pressed close to the ground, ovate, about 5-ribbed, entire, downy and hoary, more or less blunt. Footstalks broad and short. Flowerstalks tall, hoary. Spike much thicker and shorter than in *P. major*. Filaments long, conspicuous for their pale purple, shining hue. Antheræ whitish, pointed. Seeds only one in each cell of the capsule.



Bot. 1. 1811. Published by J. S. 1811, London.



PLANTING

P L A N T A G O lanceolata.

Ribwort Plantain.

T E T R A N D R I A Monogynia.

GEN. CHAR. *Cal.* four-cleft. *Cor.* four-cleft, inferior; its limb reflexed. *Stamina* very long. *Caps.* with 2 cells, bursting all round.

SPEC. CHAR. Leaves lanceolate, tapering at each end. Spike ovate, naked. Stalk angular.

SYN. *Plantago lanceolata.* *Linn. Sp. Pl.* 164. *Huds.* 64. *With.* 196. *Relh.* 62. *Sibth.* 56. *Curt.* *Lond. fasc.* 2. t. 10. *Mart. Fl. Rust.* t. 67.

P. quinquenervia. *Raii Syn.* 314.

COMMON every where in meadows and pastures, flowering in June and July, and the root is perennial. The leaves all grow from the root, and are for the most part upright; their form is truly lanceolate, pointed, entire, each tapering at the base into a long flat footstalk, ribbed like the leaf itself with five strong prominent nerves; they are of a dark green, most hairy beneath, and at their insertion invested with long white woolly hair springing from the crown of the root. Stalks erect, growing from among the leaves, and clothed at their base with the same kind of hair; upwards they are smoothish, simple, round with five deep furrows, twisted, a little longer than the leaves, and terminated by an ovate spike, which is imbricated with black scales, and enlivened by the prominent cream-coloured antheræ.

Some farmers have recommended this plant, by the name of rib-grass, as a good food for sheep, or to be made in hay for cattle in general. It yields indeed an abundant crop but it has been said no domestic animal will eat it, except mixed with other vegetables; which, if true, is not much in its favour.

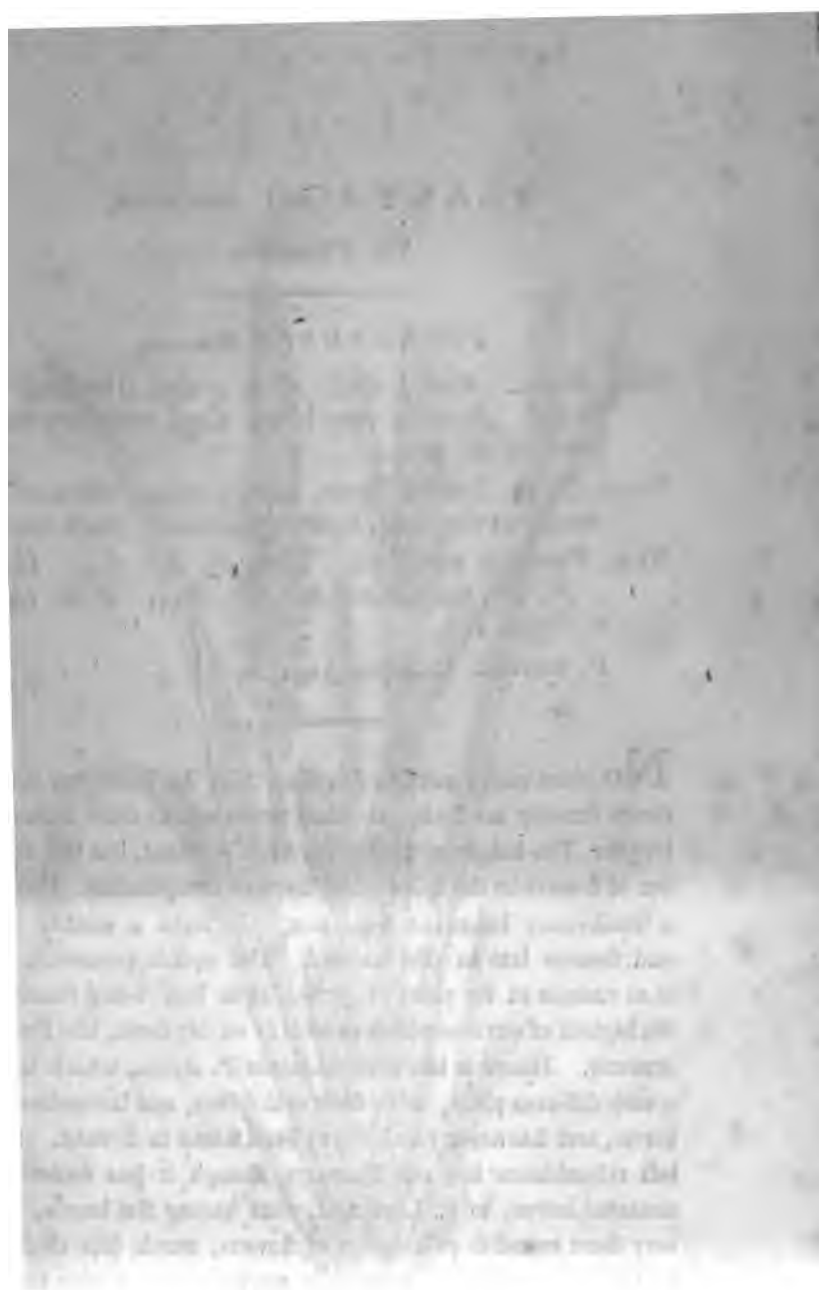
Mr. Woodward has observed that the spike is sometimes surrounded by large leaves, instead of the usual small bractæ; and we know it to become sometimes an abortive panicle.



Primula vernalis (L.) Link. & Rostk. Schumacher

v





PLANTAGO maritima.
Sea Plantain.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Cor.* 4-cleft ; its limb reflexed. *Stamina* very long. *Capsf.* with two cells, bursting all round.

SPEC. CHAR. Leaves linear, mostly entire, channelled, woolly at the base. Spike cylindrical. Stalk round.

SYN. *Plantago maritima.* *Linn. Sp. Pl.* 165. *Huds. Fl. An.* 64. *Willd. Bot. Arr.* 144. *Relb. Cant. Suppl.* 2. 9.

P. marina. *Raii Syn.* 315.

NO plant varies more in size than this. Its leaves are sometimes scarcely an inch, at other times more than a foot in length. The height of the stalk is more constant, but the number of flowers in the spike varies beyond computation. Ours is a moderately luxuriant specimen. It loves a muddy soil and flowers late in the summer. The root is perennial. It is as various in its place of growth as in size, being found on



I. Senaria, DC.



PLANTAGO Coronopus.

Buck's-horn Plantain.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Cor.* 4-cleft, inferior; its limb reflexed. *Stamina* very long. *Capsf.* with 2 cells, bursting all round.

SPEC. CHAR. Leaves linear, in many pinnate segments. Stalk round.

SYN. *Plantago Coronopus.* *Lim. Sp. Pl.* 166. *Sm. Fl. Brit.* 185. *Huds.* 64. *With.* 198. *Hull.* 34. *Relh.* 62. *Sibth.* 56. *Abbot.* 31.

P. foliis laciniatis, Coronopus dicta. Raii Syn. 315.

β. *P. gramineo folio hirsuto, minor, capitulo rotundo brevi. Dill. in Raii Syn.* 316.

COMMON on dry sandy or gravelly ground, and by the sea side in many places, flowering all summer long.

Root annual, tapering. Leaves radical, numerous, spreading in a star-like form and generally pressed close to the ground, whence one of the old names of this species, Star of the Earth; they are divided in a pinnatifid manner into numerous deep linear segments, frequently toothed and subdivided, pointed, more or less hairy. Stalks several, simple, round, hairy, spreading from the base, then ascending, the central one only being quite erect. Spike about an inch long, dense, greenish. Corolla white. Antheræ terminated by a membrane.

Few plants vary more in size. On dry exposed heaths the little hoary leaves seem almost pressed into the earth, and the spikes are so short as to become capitate. In the maritime variety β the leaves are almost entire.

We should be tempted to adopt (with Mr. Relhan) the name *coronopifolia* for this species instead of the substantive *Coronopus*, as another *Coronopus* now stands as a genus in the *Fl. Brit.* p. 690; but this being the identical plant so named by the oldest writers, such an innovation is perhaps better avoided.

892.





TESTUNCULUS

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[illegible]

...with many local...

CENTUNCULUS minimus.

Chaff-weed or Bastard Pimpernel.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Cor.* 4-cleft, inferior, tubular; limb spreading. *Stam.* short, smooth. *Capsf.* of 1 cell, bursting all round, with many seeds.

SPEC. CHAR.

SYN. *Centunculus minimus.* Linn. *Sp. Pl.* 169.

Huds. 63. *Witb.* 198. *Curt. Lond. fasc.* 3. t. 11.

Dicks. H. Sicc. fasc. 7. 2.

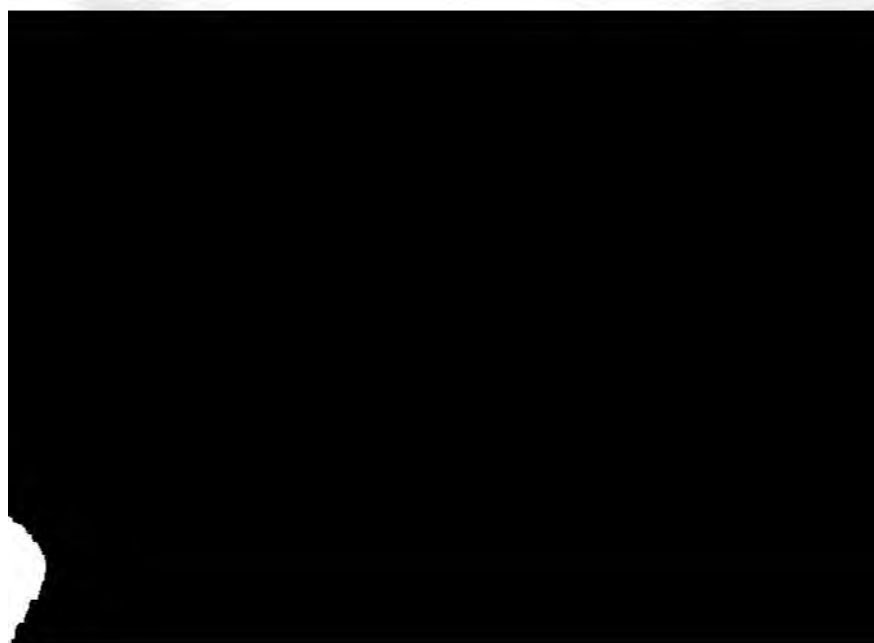
Centunculus. Dill. in *Raii Syn.* 1.

ONE of the least of our "perfect plants," as they are called, which, perhaps, is reckoned more rare than it really is, from being so easily overlooked. It grows on watery, sandy heaths, and has been sent us from near Ampthill, Bedfordshire. It has been found on several heaths to the west and south of London, flowering in June and July.

Root small, and annual. The herb varies much in size, like all annuals. Stem generally a little branched at the base, erect, an inch or two high, a little angular, leafy, smooth. Leaves alternate, sessile, spreading, ovate, entire, smooth. Flowers solitary, sessile in the bosoms of the leaves, white or reddish, expanded only in the most brilliant sunshine, and very short-lived. Segments of the calyx lanceolate, acute. Corolla permanent, tubular at the base, its limb in 4 acute spreading segments. Stamina awl-shaped, smooth, very short, inserted into the tube. Capsule globose, crowned with the permanent style.

There is certainly great affinity between this plant and the *Anagallis*; M. de Jussieu has even said that it has sometimes 5-cleft flowers, with 5 stamina, and so becomes an *Anagallis*. We think, however, the smooth stamina, as well as the tubular form of the corolla, independent of number, justify Dillenius in making it distinct. It has the habit and flower nearly of *Lythymachia Linum-stellatum*, with the fruit of *Anagallis*. The corolla is permanent, though it soon withers, being forced off only by the swelling seed-vessel.





[1312]

SANGUISORBA officinalis.

Great Burnet.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Germen* between the calyx and corolla. *Seed* 1.

SPEC. CHAR. Spikes ovate.

SYN. *Sanguisorba officinalis.* *Linn. Sp. Pl.* 169. *Sm. Fl. Brit.* 186. *Huds.* 65. *With.* 199. *Hull.* 35. *Relh.* 61. *Sibth.* 57. *Abbot.* 31. *Mart. Rust.* t. 142.

S. major, flore spadiceo. *Raii Syn.* 203.

AS the *Poterium*, v. 12. t. 860. prefers such chalky or limestone situations as are very dry and open, this plant, closely allied to it in habit and qualities, though different in botanical characters, is found in rather moist and rich pastures, but always in limestone countries. It is most abundant in the North, and flowers in June and July.

Root strong and perennial. Stem 2 feet high, erect, furrowed, with but few leaves, panicled above. Leaves unequally pinnate, the leaflets opposite, on stalks, ovate or somewhat heartshaped, deeply and sharply crenate, smooth, veiny, having, in the larger leaves, a pair of little toothed appendages at the base of their partial stalks. The radical leaves stand on long footstalks; the rest are nearly sessile, with a pair of lunate, toothed, stem-clasping stipulæ. Flowers of a dark dull purple, in dense, ovate, obtuse, terminal, long-stalked heads. The uppermost flowers expand first; which is singular. Calyx inferior, in 4 green, ovate, acute segments. Corolla deeply divided into 4 purple, ovate, acute, equal, spreading segments, hairy at their base, which appear to crown the germen; and hence is derived the very unusual character of the genus as above mentioned. The corolla has, however, strictly a tube, though it so closely enfolds the germen as to seem its proper integument. Stamina 4, equal. Style simple, with a 4-cleft stigma. Seed solitary, elliptical.



M. L. 1814. "M. L. 1814." In "M. L. 1814." London

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EPIEDIUM alpinum.

Barren-wort.

TETRANDRIA Monogynia.

GEN. CHAR. *Petals 4. Nectaries 4* pouches, lying on the petals. *Calyx* opposite to the petals, caducous. *Pod* of one cell, with many seeds.

SPEC. CHAR.

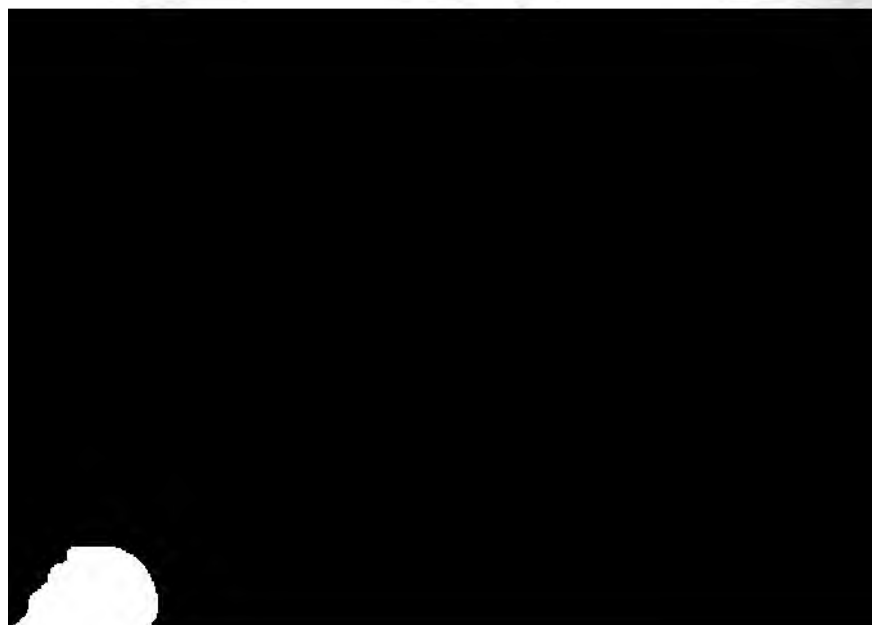
SYN. *Epimedium alpinum*. *Linn. Sp. Pl.* 171. *With.* 199. *Ait. Hort. Kew. vol. 1.* 157.

THE first information we had of this as a British production was from Thomas Gisborne, Esq. of Yoxall Lodge, Staffordshire, who about six or seven years ago received a living plant collected by Mr. Thomas Hutton some time before upon Carrock Fell, Cumberland. Our specimen came from the garden of John Walker, Esq. who last year received from Mr. Hutton a portion of the original root. Dr. Withering has lately introduced the *Epimedium* into his work on the authority of Dr. Richardson, who is said in Blackstone's *Specimen Botanicum* to have found it in Bingley Woods, Yorkshire, and of Mr. Robson, who lately obtained a specimen from Skiddaw. We think therefore there can be no further doubt upon the subject. It is probable that this plant, curious and beautiful as it is, may have generally escaped notice, from flowering early in the spring, after which its leaves soon wither away, before the wild bushy places it inhabits are commonly visited by botanists.

Root perennial, slender, creeping. Stems upright, scarcely a foot high, round, smooth, simple, bearing one alternately branched upright panicle of dark red drooping flowers, and one large twice or thrice compound leaf, divided in a threefold order, and composed of large, thin and delicate heart-shaped, pointed, finely ciliated leaflets, glaucous beneath, pendent, and, from their almost capillary foot-stalks, trembling to every breath of air. The terminal leaflets, and one of the lateral ones, are ternate; the other lateral one mostly simple: nor are the two sides of the general leaf ever compounded exactly in the same manner. Perhaps what is called the stem ought to be reckoned only the foot-stalk of the leaf, which, as in *Turnera*, bears the flower-stalk. The peduncles are rough with glandular hairs. Calyx of four concave greenish leaves, falling off as the flower expands. Petals dark red, ovate, opposite to the calyx. Nectary of four oblong blunt yellowish pouches, opening inwards, full of honey, and lying on the petals. Stamina awl-shaped; antheræ united with them longitudinally, and bursting on each side by a cover which separates the base as in *Leontice* and *Laurus*. Germen ovate, becoming oblong pod of one cell, two valves, and several seeds.



... 1797. *Phyllanthus* *sp.* *from London*



CORNUS sanguinea.

Wild Cornel-tree, or Dog-wood.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* of 4 teeth. *Petals* four. *Drupa* inferior. *Nut* of two cells.

SPEC. CHAR. Branches straight. Leaves ovate, green on both sides. Cymes without involucre.

SYN. *Cornus sanguinea.* *Linn. Sp. Pl.* 171. *Hudsf. Fl. An.* 70. *With. Bot. Arr.* 160. *Relb. Cant.* 8. *Sibth. Oxon.* 61. *L'Herit. Corn.* 5.

C. foemina. *Raii Syn.* 460.

COMMON every where in hedges, yet most plentiful on a chalk or lime-stone soil. It flowers in June, and the berries ripen in August.

This shrub grows to the height of 4 or 5 feet; its wood is hard and even, fit for the use of turners, the bark smooth and of a dark red, except on the very youngest branches.

Leaves opposite, ovate, entire, strongly nerved, green above,



Nov. 725. *Philadelphus p. laevis* L. London



CORNUS Suecica.

Dwarf Cornel.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* of 4 teeth. *Petals* 4. *Drupa* inferior. *Nut* of 2 cells.

SPEC. CHAR. Herbaceous. Flower between two branches.

SYN. *Cornus Suecica*. *Linn. Sp. Pl.* 171. *With. Bot. Arr.* 161.

C. herbacea. *Huds. Fl. An.* 71.

Chamæpericlymenum. *Raii Syn.* 261.

MR. William Travis of Scarborough gathered the specimen here figured on the side of a valley in that neighbourhood, called the *Hole of Horcum*, where this alpine plant grows abundantly, as well as about the Cheviot hills, Northumberland, and in the Highlands of Scotland, flowering in June and July. It is nearly allied to a favourite American plant, *C. canadensis*, but does not thrive so well in a garden.

Root perennial, creeping, long and slender. Stems perfectly herbaceous, erect, rising to the height of 3 or 4 inches, square, leafy. Leaves opposite, sessile, ovate, entire, strongly ribbed, without stipulæ. Flowers in a little terminal pedunculated umbel, with a large involucre of 4 ovate unequal white leaves, often bordered with red, and turning green as the fruit ripens. Each flower stands on a short partial stalk, and is in every part, except the stamina, of an exceedingly deep purple, almost black. Stamina and antheræ whitish. The umbel might easily be taken, by a casual observer, for one simple flower with 4 white petals, and we are afraid Ray understood it so, having perhaps not seen it alive. The fruit is round, red, sweetish. On each side the stalk that supports the umbel arises the rudiment of a branch, which overtops the fruit before it arrives at maturity. The presence of these branches distinguishes this species from *Cornus canadensis*.





[1910]

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Bay (cassia) in Florida, St. George, Jamaica.





Asperula Helioscopia

ALCHEMILLA vulgaris.

Common Ladies Mantle.

TETRANDRIA Monogynia.

GEN. CHAR. Cal. in 8 segments. Cor. none. Seed 1, naked.

SPEC. CHAR. Leaves lobed, plaited.

SYN. Alchemilla vulgaris. Linn. Sp. Pl. 178. *Hudb.* 71. *Witb.* 204. *Hull.* 37. *Relb.* 68. *Sibsb.* 6. *Abbot.* 36. t. 1.

Alchimilla. *Raii Syn.* 158.

A NATIVE of dry and rather mountainous pastures, in which it often constitutes a great part of the herbage, flowering from the end of May to August.

The root is woody and perennial, with fibres running deep into the ground. Stems more or less procumbent, alternately branched, round, hairy, leafy. Radical leaves on long foot-stalks, large, roundish, many lobed, plaited, serrated, more or less hairy, especially beneath. The verdure of their upper surface is remarkably fine. The stem-leaves are much smaller,



Urtica dioica L.

ALCHEMILLA alpina.

Alpine Ladies' Mantle.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* in 8 segments. *Cor.* none.
Seed 1, naked.

SPEC. CHAR. Leaves digitate, serrated.

SYN. *Alchemilla alpina.* Linn. *Sp. Pl.* 179. *Hudf.*
Fl. An. 71. *With. Bot. Arr.* 162.

A. *Alpina pentaphyllos.* *Raii Syn.* 158.

MOST rocky mountains in the same parts of England and Scotland produce this elegant little plant; and in proportion to the barrenness and openness of its situation, is the rich silvery satin of the back of its leaves more dense and splendid. It is most conspicuous when agitated by the wind; for the flowers, though they partake externally of the same silvery hue, are small and inconsiderable.

The root is perennial, strong, and deeply fixed in the clefts of rocks, chiefly preferring the micaceous kind. Leaves radical, on long slender footstalks, deeply cloven into five (rarely more) obovate serrated segments, dark green and smooth on the upper side, very silky beneath. Stalk erect, alternately branched, with a small leaf and 2 stipulæ at each subdivision. Flowers on partial slender silky flower-stalks, downy without, smooth and green within. Calyx cup-shaped, rim spreading in 4 large segments, with 4 small intermediate, rather external ones, opposite to which last the stamina are placed. Germe obovate, in the bottom of the calyx, which invests also the ripe seed. Style from the base of the germen, evincing its affinity to *Potentilla*, *Fragaria*, &c. which its habit and astringent qualities confirm. The flowers appear in July.





April 798 Lichfield by P. G. H. & J. G. H.

April 798 Lichfield by P. Gaurer & Gaudin



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ALCHEMILLA arvensis.

Field Ladies Mantle, or Parsley Piert.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* in 8 segments. *Cor.* none. *Seed* 1, naked.

SPEC. CHAR. Leaves plain, three-lobed, notched.

SYN. *Alchemilla arvensis.* *Sm. Fl. Brit.* 190.

A. Aphanes. *Leers.* 54. *Sibth.* 61. *Abbot.* 36.

Aphanes arvensis. *Linn. Sp. Pl.* 179. *Huds.* 72.

With. 4. *Hull.* 37. *Relb.* 69.

Percepier Anglorum. *Raii Syn.* 159.

VERY frequent in fallow fields, gardens, and on heathy banks where the soil is gravelly, or sandy, springing up in autumn or during mild weather in the course of the winter or early months, and flowering all summer long.

Root annual, small. Stems numerous, spreading or prostrate, round, leafy. Leaves alternate, on short footstalks, plain (not plaited), palmate, three-lobed, deeply cut, some-

101.



[1813]

BUFFONIA tenuifolia.

Slender Buffonia.

TETRANDRIA Digynia.

GEN. CHAR. Cal. of 4 leaves. Petals 4. Capsule of 1 cell and 2 valves, with 2 seeds.

SPEC. CHAR.

SYN. Buffonia tenuifolia. With. 205. Sm. Fl. Brit. 191.

Bufonia tenuifolia. Linn. Sp. Pl. 179. Huds. 72. Hull. 38.

Alsine polygonoides tenuifolia, flosculis ad longitudinem caulis velut in spicam dispositis nostra. Raii Syn. 346. Pluk. Phyt. t. 75. f. 3.

THE plant here delineated from a garden specimen is introduced to remove, if possible, the doubts respecting it as a native of Britain, for which Plukenet is the original authority. He has certainly figured the real *Buffonia*, and asserts its being found by the sea side about Boston, Lincolnshire. Ray relies on him, but no succeeding botanist has found it. Sir J. Banks suspects that *Bupleurum tenuissimum* might have been mistaken for it; see t. 478. Doody is said to have gathered the plant in question on Hounslow Heath; but there it has equally been sought in vain since his time. Boston is the most likely place. We recommend the search to all our maritime botanists.

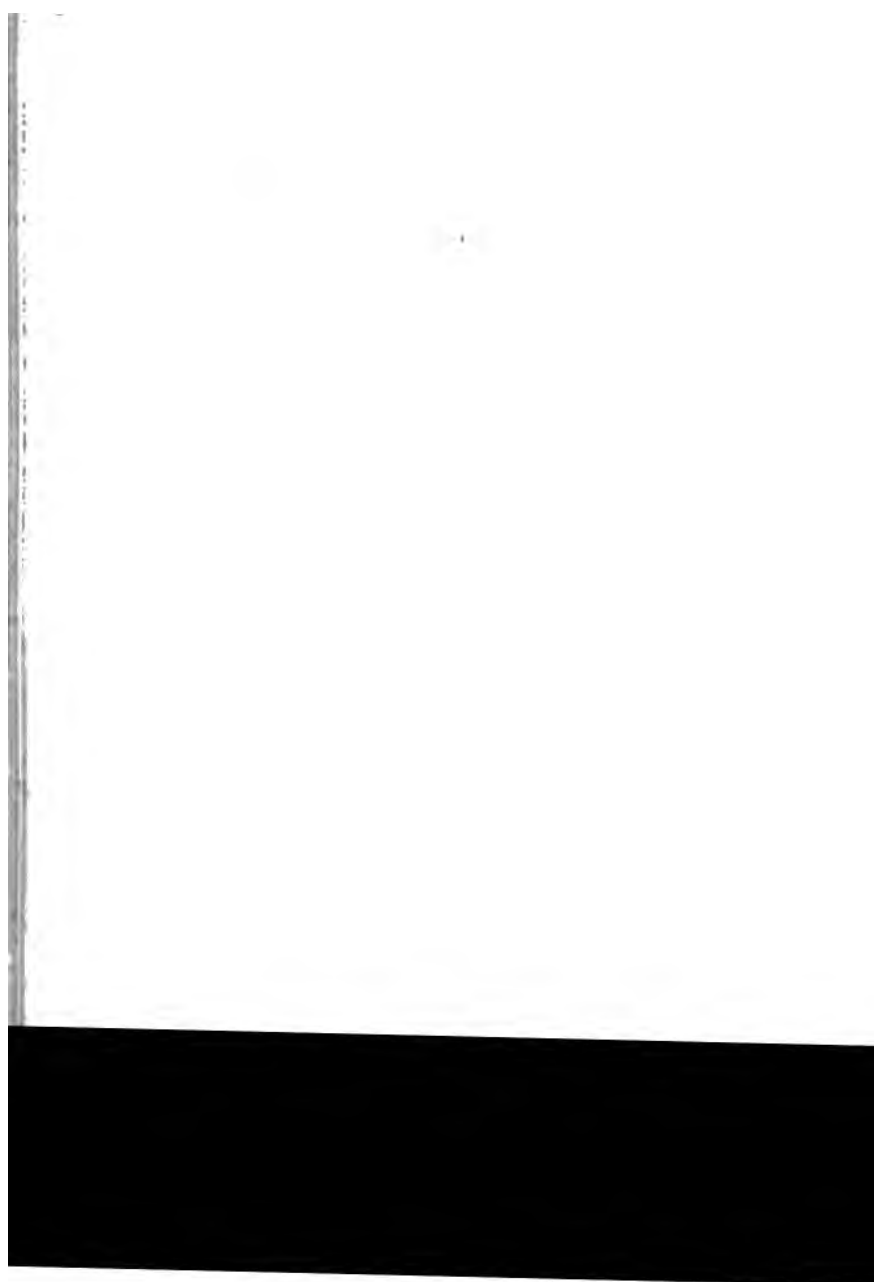
It is annual, flowering in June. Habit much like an *Arenaria*. Stems 1 or more, erect, branched, round, leafy, smooth. Leaves erect, opposite, awlshaped, 3-ribbed, with a broad sheathing base. Flowers on roughish stalks, upright, small, white. Calyx-leaves lanceolate, striated, with a white edge. Petals obtuse, undivided, shorter than the calyx. Stamens equal. Germen superior, obovate, with 2 very short distinct styles, and capitate stigmas. Capsule of 2 flattish valves, containing 2 large rough seeds.

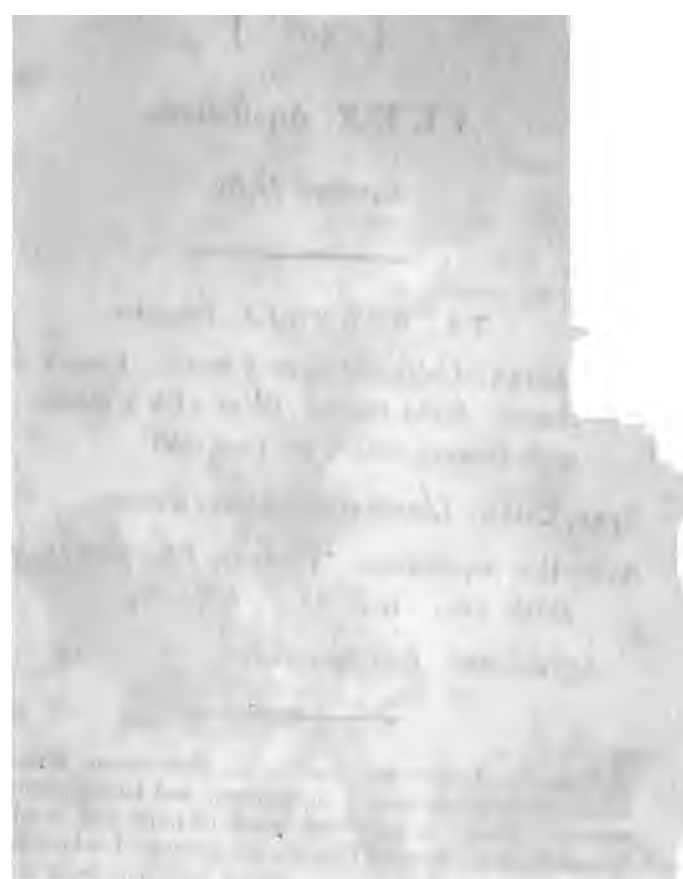
This is a very distinct genus. Linnæus named it, at the suggestion of Sauvages, after the celebrated Buffon, but is thought to have applied the specific name *tenuifolia* to express the *slenderness* of the great zoologist's claim to a botanical honour, and also to have rather maliciously dropped one *f* in the generic name. The latter idea has been confirmed by the authors of the Botanical Arrangement, who call it *Toad-grass*.





May 1 1894. *Phlox* by W. C. Cresson. London





I L E X Aquifolium.

Common Holly.

TETRANDRIA Tetragynia.

GEN. CHAR. *Calyx* with 4 or 5 teeth. *Corolla* wheel-shaped. *Styles* none. *Berry* with 4 seeds. Some male flowers, which are four-cleft.

SPEC. CHAR. Leaves ovate, acute, spinous.

SYN. *Ilex Aquifolium*. *Linn. Sp. Pl.* 181. *Hudf.* 446.
With. 210. *Relb.* 382. *Sibth.* 64.

Agrifolium. *Raii Syn.* 466.

IN woods, hedges and thickets not uncommon, flowering in May, the berries ripening in autumn, and lasting through the winter. There is a natural wood of holly half a mile from Norwich in the way to Thorpe, the ground of which is an entire mat of lily of the valley, mixed with hare-bells and wood rush.

The holly tree is of slow growth and long duration, its wood consequently hard, and close-grained; the bark smooth, grey, abounding in mucilage, and hence by maceration in water it makes bird-lime. Leaves alternate, on footstalks, elliptical, pointed, waved, rigid, evergreen, shining, their margins (except on very old branches) divided into spinous lobes. In some cultivated varieties the upper surface is prickly, and the leaves are very liable to be variegated with pale or deep yellow. Flowers white, in axillary clusters, either 4 or 5-cleft; the early ones generally imperfect, and intermixed with some that have no germen, and these are always 4-cleft. Stamina spreading, alternate with the lobes of the corolla. Stigmas sessile. Berry scarlet, rarely yellow, lasting long, and uninjured by our severest frost.

The branches of this tree laden with berries, and mixed with miseltie and the spindle-tree, are used in many parts of England to ornament churches and houses at Christmas, and the holly is in Norfolk vulgarly called *Christmas*.



Ilex aquifolium L.



[191]

POTAMODONTON

Amphipoda, Crustacea

Amphipoda, Crustacea

Amphipoda, Crustacea

Amphipoda, Crustacea

Amphipoda, Crustacea

Amphipoda, Crustacea

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Amphipoda, Crustacea

Amphipoda, Crustacea

Amphipoda, Crustacea

[1822]

TAMOGETON natans.

Broad-leaved Pond-weed.

TETRANDRIA Tetragynia.

Cal. none. Petals 4. Style none. Seeds 4.

Fr. Upper leaves oblong-ovate, on footstalks, lower linear. Flower stalks cylindrical.

Tamogeton natans, Linn. Sp. Pl. 182. Sm.

Brit. 193. Huds. With. 211. Hull. 39.

h. 63. Sibth. 64. Fl. Dan. t. 1025.

rotundifolium. Raii . 148.

ON in pools and slow rivers, covering the surface of water all summer with broad floating leaves, and decorating it in July with innumerable pale upright spikes of flowers, raised 2 or 3 inches above level.

The roots are long, perennial, creeping in the mud. Stems much branched, several feet in length, round, leafy. Lower leaves far beneath the surface, membranous, linear and very narrow: upper ones numerous, all floating on the top, 2 inches or more in length, coriaceous, oval-oblong, many-ribbed, on long stalks. Stipulas large, lanceolate, concave, acute. Flower-stalks solitary, axillary, (with a bractea like the stipulas,) thick, nearly cylindrical, being merely contracted just under the spike; and not swelling upwards before that contraction, as in *P. heterophyllum*, t. 1285. Flowers dull green, with copious whitish pollen.

This is the largest British Pond-weed, and the most commonly noticed. It can be confounded with none but *heterophyllum*, which we have already explained to be sufficiently distinct.

1622



Drawn by J. S. & Published by J. S. & Co. London.

✓



[1902]

STANLEY, (photograph)

(with Mrs. Stanley)

THE STANLEY TRUST

STANLEY TRUST. The Stanley Trust was established in 1902, and has since that time been the principal source of income for the Stanley family. The trust was established by the late Mr. Stanley, who was a member of the Stanley family for many years. The trust was established for the purpose of providing for the education and maintenance of the Stanley family, and for the support of the Stanley family in their old age.

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POTAMOGETON heterophyllum.
Various-leaved Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves under water membranous, linear-lanceolate, and sessile; floating ones coriaceous, elliptical, on footstalks. Flower-stalks swelling.

SYN. *Potamogeton heterophyllum.* Schreb. *Lips.* 21. Hoffm. *Germ. ann.* 1800. 81. Willden. *Sp. Pl.* v. 1. 713. Sm. *Fl. Brit.* 1390.

P. palustre. Teesdale *Tr. of L. Soc.* v. 5. 43. Relh. 6.

P. gramineum. Lightf. 123. *Fl. Dan.* t. 222; without the floating leaves.

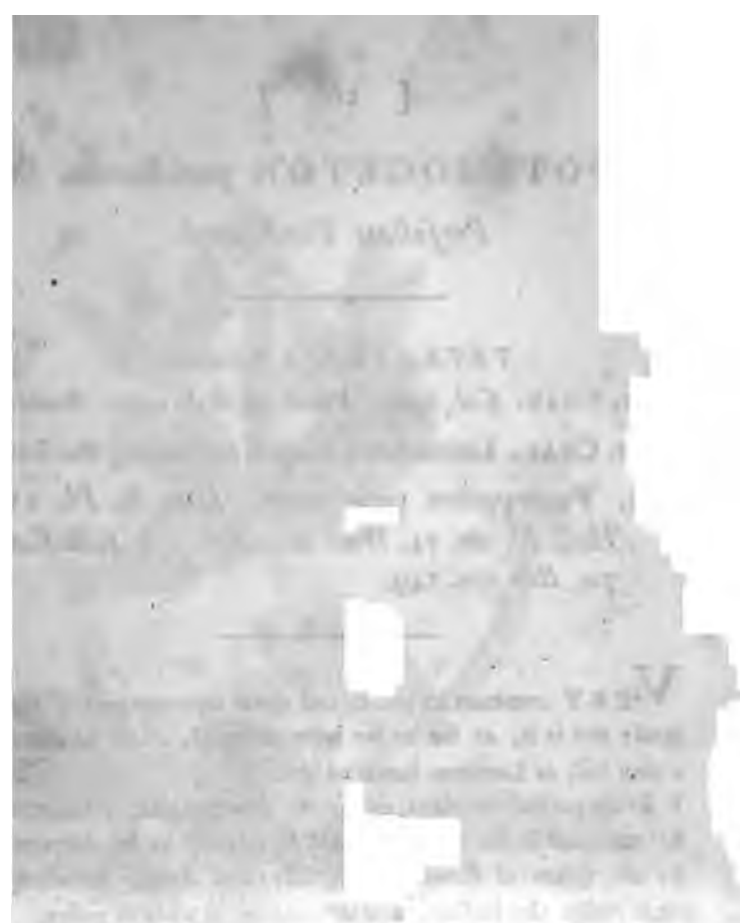
WE received this *Potamogeton* from Mr. Teesdale and the Rev. Mr. Hemsted several years ago, but have long been in doubt about it. A collection of fine specimens, in various states, sent from Shropshire by the Rev. Mr. Williams, have enabled us better to understand it, and to refer it without any hesitation to the *heterophyllum* of Schreber. That great author never saw the flowers. With us they are produced from July to September. The plant seems not to be uncommon in pools and ditches throughout England, but has generally been mistaken, before its floating leaves appear, which is often not till late in autumn, for *P. gramineum*, because botanists have relied on the name in *Fl. Danica*. Mr. Turner found this plant at Old Buckenham, Norfolk.

The roots are perennial, creeping in the mud. Stems branched. Most of the leaves under water membranous, lanceolate or linear, sessile; the rest floating, leathery in texture, on footstalks, elliptical, entire, various in size and breadth. Stipulae and bractea large, concave, sheathing. Flower-stalks swelling upwards, contracted under the spike, and often curved. The upper leaves resemble those of *P. natans*, the only species at this; but the flower-stalk, and lower leaves, sufficiently distinguish them.



Arisaema sp. var. sp. fide J. E. Smith, London.





POTAMOGETON perfoliatum,
Perfoliate Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves heart-shaped, embracing the stem.

SYN. Potamogeton perfoliatum. *Linn. Sp. Pl.* 182.

Huds. Fl. An. 74. *With. Bot. Arr.* 172. *Relb. Cant.*

70. *Raii Syn.* 149. *Suffl.*

VERY common in ponds and rivers in every part of England; nor is it, as far as we have observed, at all peculiar to a clay soil, as Linnæus seems to hint.

Every part of the plant, except the flower-stalks, is completely immersed in the water, so that it is only to be discovered by the spikes of flowers about July and August standing a little above the surface, and abounding in whitish pollen. It should seem the respiration of such truly aquatic vegetables must be as different from the respiration of those which inhale atmospheric air, as the breathing of fishes is from that of beasts and birds. Accordingly we find their leaves of an extremely different texture, pellucid like oiled paper (as Haller remarks), very vascular, harsh and ribbed, but often extremely brittle. The surface of such plants, like that of aquatic animals, is destitute of hair or down of any kind.

The stalks of this Pond-weed are very long, round, with leaves crowded about the top and branches. These leaves might rather be called ovate than heart-shaped, at least in the most common appearance of the plant. The petals are of a dull purple, and so situated that the air easily passes between them to waft the pollen to the stigma. The seeds are compressed, and shining.

162.



V. Lonicera del' Apia 1794



POTAMOGETON densum.

*Close-leaved Pond-weed.**TETRANDRIA Tetragynia.*GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves ovate, acuminate, opposite, crowded. Stem forked. Spike of four flowers.

SYN. *Potamogeton densum.* *Linn. Sp. Pl.* 182. *Huds. Fl. An.* 75. *With. Bot. Arr.* 173. *Relh. Cant.* 72. *Sibth. Ox.* 65.*P. seu Fontinalis media lucens.* *Raii Syn.* 149.

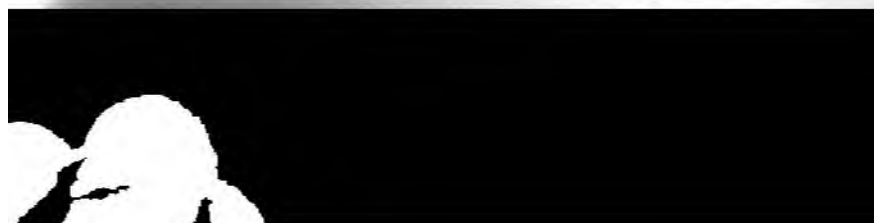
NOT uncommon in ditches, ponds, and slow streams, flowering in the early part of summer.

It is perennial, propagating itself by runners which throw out fibrous roots here and there in the mud, and send up round stems, naked and simple below, forked above, and thickly clothed with numerous pairs of opposite sessile spreading leaves,





Asperula odorata L.



POTAMOGETON fluitans.

Long-leaved Floating Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Lower leaves lanceolate, pointed and membranous; upper elliptic-lanceolate, somewhat coriaceous: all on footstalks.

SYN. *Potamogeton fluitans*. *Roth. Germ. v. 1. 72. v. 2. 202.* *Hoffm. Germ. ann. 1800. 81.* *Willden. Sp. Pl. v. 1. 713.* *Sm. Fl. Brit. 1391.*

ANOTHER new *Potamogeton* is here added to the British Flora. This has been found in the river at Scole, Norfolk, by Mr. Woodward and Mr. Turner; in ditches in the marshes near Beverley, by Mr. Teesdale; and in Lilleshall Mill-pool, Shropshire, by the Rev. Mr. Williams. It is, like others of its genus, perennial, flowering in August and September.

Writers who have described this on the continent consider it as allied to *P. natans*; we think it more approaches *P. lu-*



Nymphaea alba Published by Schleicher, Leipzig



POTAMOGETON lucens.

*Shining Pond-weed.**TETRANDRIA Tetragynia.*GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves flat, ovato-lanceolate, tapering down into foot-stalks. Spike dense, many-flowered.

SYN. *Potamogeton lucens.* *Linn. Sp. Pl.* 183. *Huds. Fl. An.* 74. *With. Bot. Arr.* 173. *Relh. Cant.* 71. *Sibth. Ox.* 65.*P. aquis immersum, folio pellucido, lato, oblongo, acuto. Raii Syn.* 148.

FREQUENT in ditches, ponds, lakes or slow-flowing rivers, chiefly on a clay soil, growing, like most others of its genus, all immersed in the water, except the spike of flowers, which appears above the surface about midsummer, or a little after.

The root is perennial, stems long, nearly simple, a little zigzag, leafy, round. Leaves alternate (except where the flowers are situated) lanceolate or ovate, entire, a little waved, ribbed, running down into a short foot-stalk, and accompanied





Sparganium angustifolium Michx.

1-100-1

FOOTNOTES

Footnote 1

Footnote 2

Footnote 3

Footnote 4

Footnote 5

Footnote 6

Footnote 7

Footnote 8

Footnote 9

Footnote 10

Footnote 11

Footnote 12

Footnote 13

Footnote 14

Footnote 15

[1985]

POTAMOGETON lanceolatum.
Lanceolate Pondweed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves lanceolate, membranous, entire, tapering at the base. Spike ovate, dense, of few flowers.

SYN. *Potamogeton ramosum angustifolium.* *Bauh. Pin.* 193. *Prod.* 101 ?

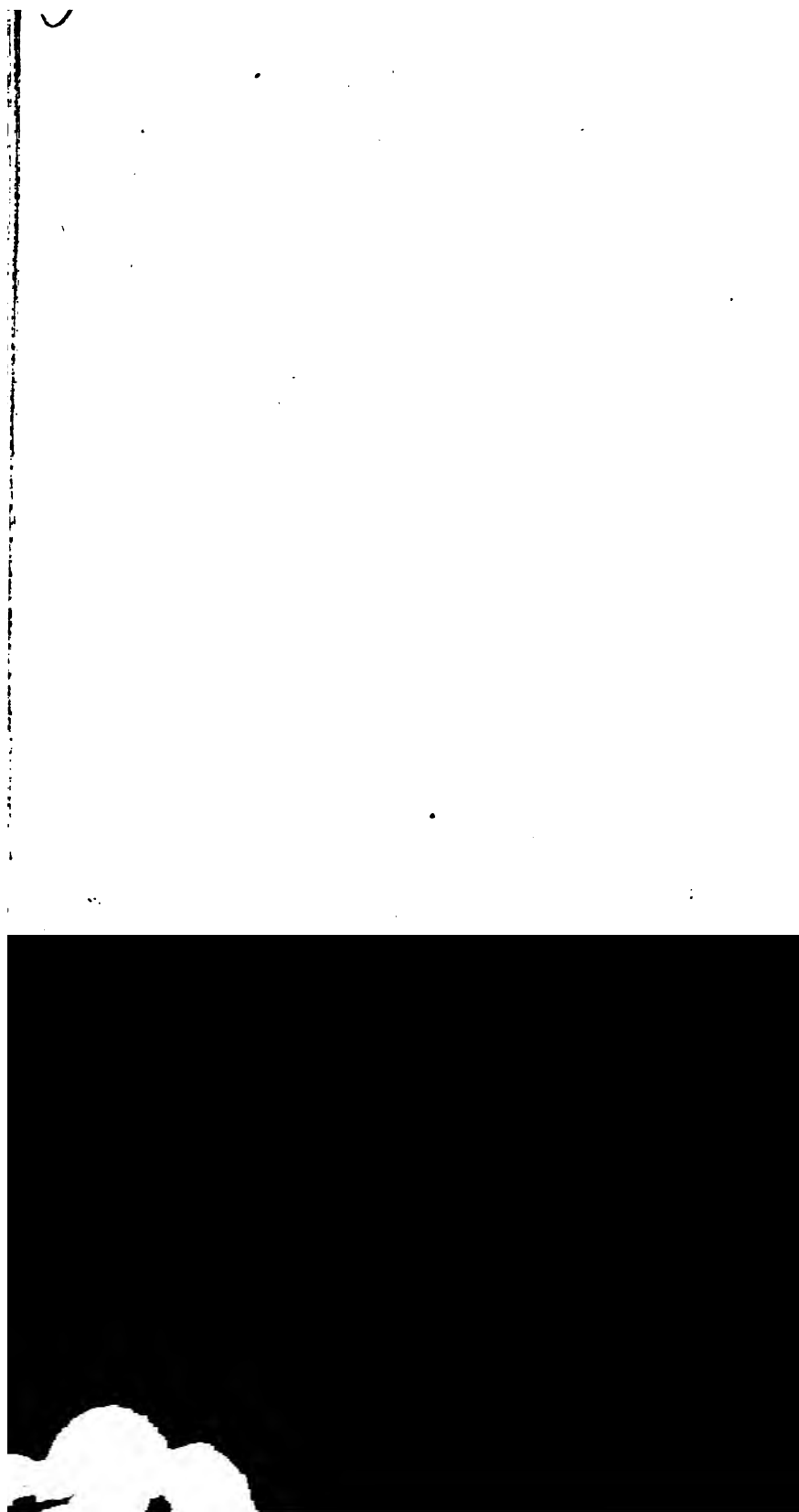
THIS *Potamogeton* was communicated by the Rev. H. Davies from the lakes of North Wales, flowering in August. The stems are floating, very slender, round, branched, with creeping perennial roots. Leaves an inch and half or 2 inches long, uniform, lanceolate, bluntish, entire, flat, thin, with 1 rib and several reticulated veins, tapering at the base. They are alternate except where the flowers are situated. Stipulas narrow, lanceolate, acute. Flower-stalks solitary from the bosom of 1 stipula of the opposite leaves, nearly as long as the corresponding leaf, cylindrical, equal. Spike short and ovate, obtuse, dense, uninterrupted, of 8, 10 or 12 small flowers. The colour of the whole plant is either dark green or brownish.

We dare not positively quote any synonym for the above plant, yet we are not without suspicion that those of Bauhin applied to *P. setaceum* may possibly belong to it. Can it be the *setaceum* of Hudson or Linnæus? Their specific character, whatever we may think of the name, is not altogether adverse. No one knows this *setaceum*. Botanists copy its barren definition from each other, but scarcely any appears to have examined it. Being like others in total ignorance, I have merely hazarded a presumption in *Fl. Brit.* that is "leaves are *setaceous*," which word perhaps may only apply to their points, or to the stems, flower-stalks, or stipulas. In this uncertainty we can but offer conjectures to be confirmed or refuted by future inquiries, and in the mean while we have our plant a name which is free from all ambiguity.

1935



Tab. 1. Bot. Published by J. A. Smith, London.





POTAMOGETON crispum.

Curled Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none.
Seeds 4.

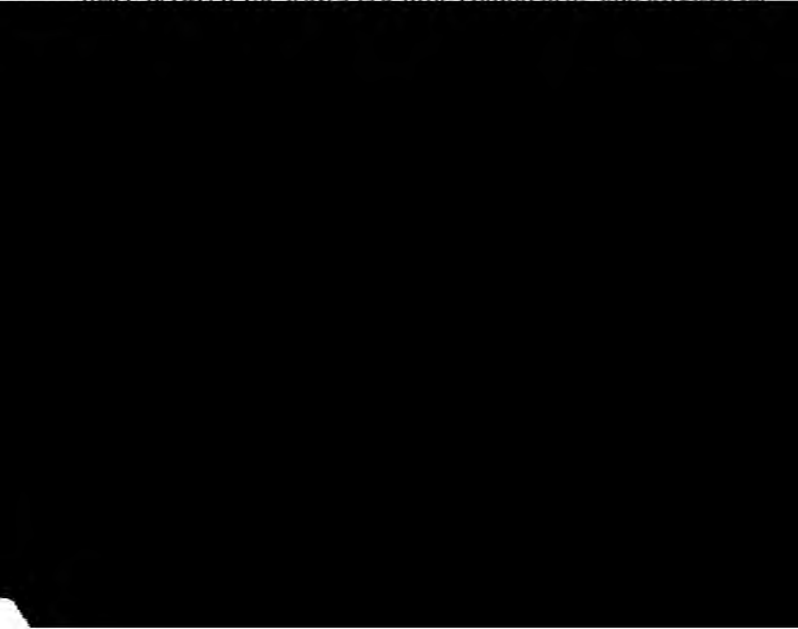
SPEC. CHAR. Leaves lanceolate, alternate, **waved**,
ferrated.

SYN. Potamogeton crispum. *Linn. Sp. Pl.* 182. *Sibth.*
Fl. Brit. 195. *Huds.* 75. *Witb.* 213. *Hall.* 39.
Relb. 71. *Sibth.* 65. *Abbot.* 38. *Curt. Lond.*
fasc. 5. t. 15.

P. seu Fontinalis crispa. *Raii Syn.* 149.

COMMON in ditches, ponds, and slow streams, floating under water, except the flowers, which are seen emerging in June and July.

The creeping perennial roots run deep into the mud, and throw up numerous branched stems, varying in length according to the depth of the water, or force of the stream, as usual in this genus, and clothed above with numerous leaves. Each space between the leaves is a little compressed, and grooved on





POTAMOGETON compressum.

Flat-stalked Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. Cal. none. Petals 4. Style none
Seeds 4.

SPEC. CHAR. Leaves linear, obtuse. Stem com-
pressed.

SYN. Potamogeton compressum. Linn. Sp. Pl. 183.
Huds. Fl. An. 75. With. Bot. Arr. ed. 3. v. 2.
213. Relh. Cant. 72.

P. caule compresso, folio Graminis canini. Rall
Syn. 149.

IN the difficult genus of *Potamogeton* we find it necessary to proceed with the utmost caution, publishing a species now and then as (we presume at least) we clearly understand it. That this is the true original *compressum* of Linnaeus, as well as of all British writers, we learn from the Clifflortian Herbarium in Sir Joseph Banks's possession, that being in the present case the original authority, Linnaeus having afterwards confounded with this a very different plant, which by no means answers to the character.

Potamogeton compressum is not very uncommon in ditches and slow streams about London, and other parts of Great Britain, flowering in June and July, when its small spike of about 4 or more brownish green flowers just emerge from the water. It has most affinity with *P. pusillum*, see our Vol. 3, t. 215, but is twice as large in all its parts, and is essentially distinguished by its compressed stem; neither do the leaves spread so immediately from the base as in this species. The root is perennial. Stem zigzag, alternately branched, very much compressed all the way up. Leaves generally alternate, but the uppermost often opposite, all exactly linear, obtuse, with a strong central nerve, and 2 fine lateral ones on each side. Stipulae intrafoliaceous, one to each leaf, embracing the stem; the lower ones generally acute and lacerated, the upper ones more obtuse and entire. Flower-stalk short, solitary, terminal till the stem grows above it.

418.



Portulaca oleraceae L.



THE HISTORY OF THE CITY OF BOSTON

FROM 1630 TO 1800

BY SAMUEL JOHNSON

The history of the city of Boston, from its first settlement in 1630, to the present time, is a subject of great interest and importance. It is a city which has been the seat of many of the most important events in the history of the United States, and which has played a prominent part in the development of the nation. The history of Boston is a story of growth and progress, of struggle and triumph, and of the enduring spirit of the people who have made it what it is today.

The city of Boston was founded in 1630, by a group of Puritan settlers who came to the New World in search of a place where they could live in accordance with their religious beliefs. They established a settlement on the tip of a peninsula, which was then a part of the Algonquian Indian territory. The settlers were led by John Winthrop, who was a prominent figure in the early history of the city. He was a man of great vision and leadership, and he played a key role in the development of the city. Under his guidance, the settlers built a strong and prosperous community, and they became known as the "City on a Hill".

POTAMOGETON gramineum.

Grassy Pondweed.

TETRANDRIA Tetragynia.

GEN. CHAR. Cal. none. Petals 4. Style none. Seeds 4.

SPEC. CHAR. Leaves linear-lanceolate, alternate, sessile, broader than their stipula. Stem round, somewhat forked.

Syn. Potamogeton gramineum. Linn. Sp. Pl. 184. Sm. Fl. Brit. 196. Huds. 76. With. 214. Hull. ed. 2. 49.

P. gramineum latiusculum, foliis et ramificationibus densissimè stipatis. Dill. in Rail Syn. 149. t. 4. f. 3.

DILLENIUS mentions this as growing in ditches, near Deptford. We have a specimen from Mr. Rose's herbarium. That in our plate was gathered near Beverley, Yorkshire, by the late Mr. R. Teesdale. It is a species which few botanists seem to have ascertained, but we can see no obscurity about it.

The whole herb grows under water, except the spikes, which in July rise above the surface. The root is perennial. Stem slender, round, zigzag, much branched, and partly forked. Leaves grassy, alternate, except at the forks, spreading, crowded, linear, bluntish, entire. Stipulas rolled inwards cylindrically, and thence most of them, at least in the lower part of the stem, narrower than the leaves, all pale brown or whitish. Spikes ovate, dense, solitary, of few flowers, from the forks of the stem, except some of the upper ones, each standing on a swelling stalk of its own length.

Lightfoot justly complains that the plate of Dillenius in Ray's *Synopsis* wants the stipulas, but his own *P. gramineum* is not this plant. We have ventured to cite it, and the figure in *Fl. Dan.* t. 222, which he commends, as one state of *heterophyllum*, t. 1285.



Mercurialis perfoliata L.



POTAMOGETON

Linn. Moench.

TALL SPERMATOPHYTES

One of the tallest and most common of the tall spermatophytes.

Over 100 feet high, with a trunk 12 inches in diameter.

The leaves are linear-lanceolate, 12 to 18 inches long.

The flowers are small, and the fruit is a large, winged seed.

The tree is common in the lowlands of the tropics.

It is used for timber, and the seeds are eaten.

The tree is also used for fuel, and the leaves are used for thatching.

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POTAMOGETON pufillum.

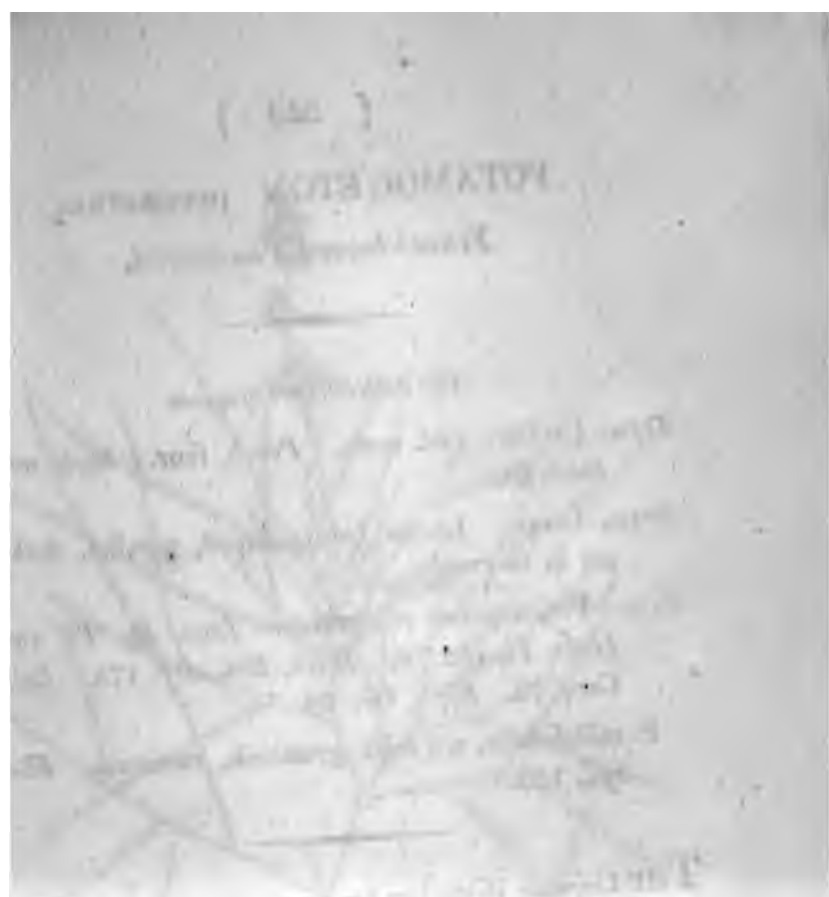
*Small Pond-weed.**TETRANDRIA Tetragynia.*GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves linear, opposite and alternate, distinct, spreading from the base. Stem cylindrical.

SYN. Potamogeton pufillum. *Linn. Sp. Pl.* 184. *Huds. Fl. An.* 77. *Willd. Bot. Arr.* 176. *Reichb. Cant.* 73. *Sibth. Oxon.* 66.P. pufillum, gramineo folio, caule tereti. *Rau*
Syn. 150.

NOT very uncommon in ponds and ditches throughout England. The root has all the appearance of being perennial (though Linnæus marks it as annual), and several fibres are thrown out from the lower part of the stem, which is round.





POTAMOGETON pectinatum.

Fennel-leaved Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* four. *Style* none.
Seeds four.

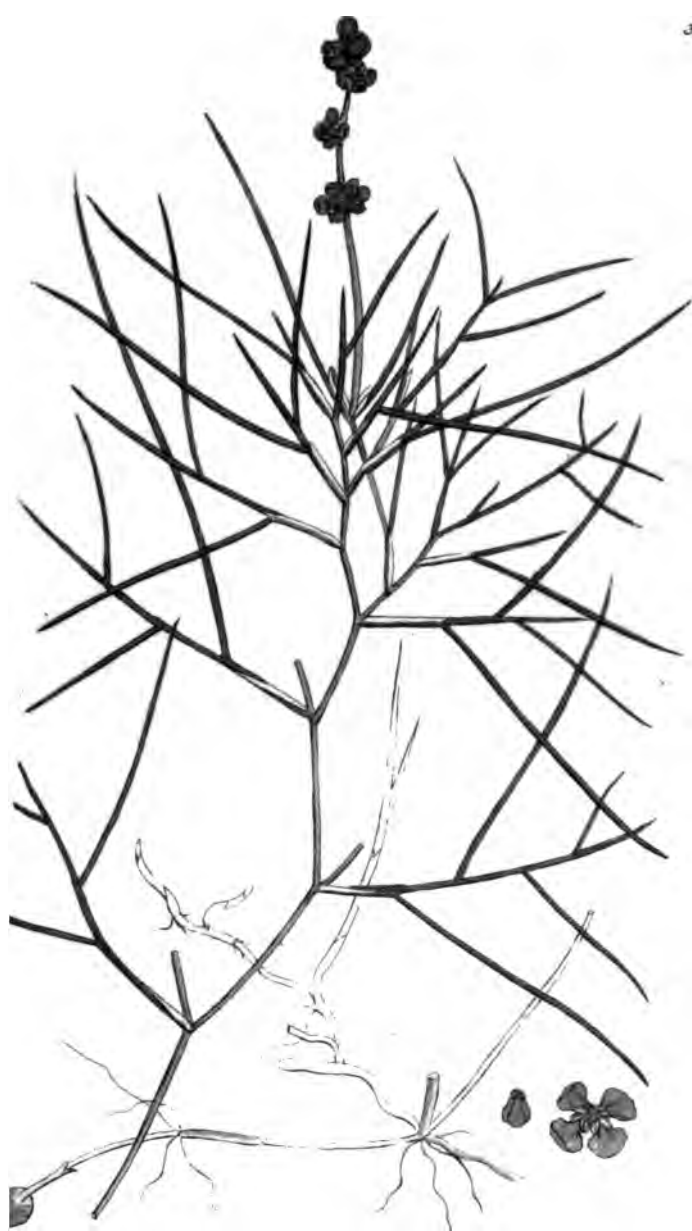
SPEC. CHAR. Leaves bristle-shaped, parallel, thick
set in two ranks.

SYN. *Potamogeton pectinatum.* *Linn. Sp. Pl.* 183. 3.
Huds. Fl. An. 76. *With. Bot. Arr.* 175. *Reh.*
Cant. 72. *Sibth. Ox.* 66.

P. millefolium, seu *foliis gramineis, ramosum.* *Reh.* ii
Syn. 150.

THE Linnæan Herbarium has no specimen of the *Potamogeton pectinatum*; but from the whole history of this plant in Linnæus and other authors, there can be no doubt of its being what we have here delineated. We are sure this is what Mr. Relhan intended, having received specimens from himself. It occurs not unfrequently in rivers, though, if the stream be rapid, it rarely flowers.

The root is perennial, originating from a tuberos lump, then creeping horizontally, slender, much branched, as is also the stem, which floats under water, extending often two or three feet. The leaves, though extremely narrow and pointed, are flat, and grow alternately, spreading in two directions, on the small branches, having long sheathing bases. The flowers only rise above the water about June or July, in a simple spike, but clustered two or three together irregularly. Petals kidney-shaped, of a dull olive colour. Antheræ yellow, very distinctly two-lobed. Stigmas obtuse, entire.





[136]
RUPPIA
[136]

THE RUPPIA

The Ruppia is a small, green, oval-shaped alga, growing in shallow water, and is one of the most common of the green algae. It is found in the Mediterranean Sea, the Black Sea, and the Red Sea. It is also found in the Indian Ocean, the Pacific Ocean, and the Atlantic Ocean. It is a very hardy alga, and can survive in very hot and very cold water. It is also very salt-tolerant, and can grow in water with a salinity of up to 30 per cent. It is a very important alga, and is used in many different ways. It is used as a food for fish, and it is also used as a source of oil. It is also used in the production of various chemicals, and it is used in the treatment of wastewater.

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RUPPIA maritima.

Sea Ruppia.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Cor.* none. *Seeds* 4, on foot-stalks.

SPEC. CHAR.

SYN. *Ruppia maritima.* *Linn. Sp. Pl.* 184. *Huds. Fl. An.* 77. *With. Bot. Arr.* 177.

Potamogeton maritimum *gramineis longioribus foliis, fructu ferè umbellato.* *Raii Syn.* 134. *t.* 6. *f.* 1.

Fucus ferulaceus. *Ger. em.* 1573, good.

A GOOD observer may, we believe, find this curious plant in most of our British salt-water ditches, especially in the latter part of summer, when its pedunculated seeds distinguish it from all vulgar pond-weeds. Mr. E. Forster, jun. favoured us with this specimen from a ditch by the road from Maldon to Goldhanger, where Ray observed it.

Whether the root be annual or perennial is not easy to determine. The stems are long and slender, round, very much branched, clothed with alternate linear pointed leaves, which embrace the stem with a membranous sheath at their base. Two flowers commonly stand sessile, one a little above the other, on an axillary flower-stalk, various in length, and sometimes coiled, by means of which they alone are raised above the water when the pollen is ripe. The antheræ are sessile, bursting at top into two hemispheres; the germens seem scarcely pedunculated before impregnation, but are afterwards raised in a wonderful manner from the receptacle, each on its own proper foot-stalk. The seeds are oval, slightly gibbous on one side, especially when young. They ripen in August.

The account in Ray's Synopsis, written by Dillenius, is incorrect in saying the flowers (or stamina) grow remote from the fruit, and that the latter appears first.

Potamogeton maritimum most resembles the *Ruppia*, but even before flowering it may be distinguished by its leaves for the most part being not so membranous, and also less tumid, at the base. We have in the Linnæan Herbarium a specimen from Dr. Hope of that variety mentioned in Lightfoot (*Append.* 1091) which seems to differ from ours merely in the greater length of its spiral flower-stalk, possibly having grown in deeper or more fluctuating water. Its seeds are indeed spotted with red, which we have never observed in any other specimen.



SAGINA procumbens.
Procumbent Pearlwort.

TETRANDRIA *Tetragynia.*

GEN. CHAR. *Cal.* 4-leaved. *Petals* 4. *Capsule* 1 cell.

SPEC. CHAR. Stems procumbent, smooth. Petal very short.

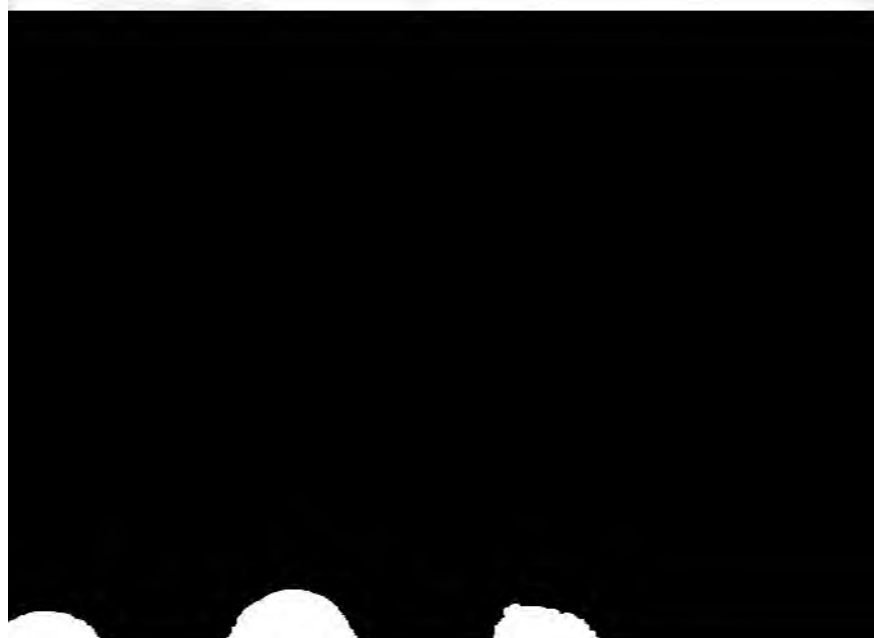
SYN. *Sagina procumbens.* *Linn. Sp. Pl.* 185. *Sm.*
Fl. Brit. 199. *Huds.* 73. *With.* 215. *Hull.* 38
Relb. 73. *Sibth.* 66. *Abbot.* 39. *Curt. Lond.*
fasc. 3. *t.* 12.

Alsinella muscoflo, repens. *Raii Syn.* 345.

NOTHING can be more common than this humble weed in sandy waste places, neglected walks of gardens, and the interstices of paved courts, where its flowers are to be seen in plenty from May to the end of autumn, provided the plant is not entirely burnt up by the summer's sun.

Root perennial, small and fibrous. Stems several, procumbent, smooth, taking root at their joints, and, according to Mr. Curtis's observations, constantly remaining with the leaves green through the winter. Leaves opposite, and even connate, linear, convex beneath, entire, smooth in every part, tipped with a minute point. Flower-stalks axillary, solitary.







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SAGINA maritima.

Sea Pearlwort.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* 4-leaved. *Petals* 4. *Capsule* of 1 cell.

SPEC. CHAR. Stems nearly upright, divaricated, smooth. Leaves obtuse, without bristles. *Petals* obsolete.

SYN. *Sagina maritima.* *Don Herb. Brit. fasc.* 7. 155.

WE originally received this plant from Mr. R. Brown, who gathered it in 1799, at Bally-castle in Ireland, near the Giant's Causeway. Mr. G. Don sent the same from the summit of Ben Nevis in 1803, and we find no difference between this and his *S. maritima*, gathered on various parts of the Scottish coast. It is annual, flowering from May to August.

The root is small and slender. Stems several, 2 to 4 inches high, some of them decumbent at the base, then ascending or nearly upright, much branched, partly forked, and spreading; they are round, smooth, leafy, frequently purplish. Leaves opposite at each joint, clasping the stem with a peculiarly white and conspicuous membranous edge. Their form is short, thick and blunt, inclining to spatulate, often tipped with a minute point, but no bristle, and the base is very rarely slightly fringed. Flower-stalks axillary, lateral or terminal, slender, erect, from half an inch to an inch long. Calyx of four broad-ovate, obtuse leaves, with a white membranous edge. Petals minute, often altogether wanting. Stamens observed by Mr. Don to be sometimes eight. Capsule of four ovate valves, about the size and shape of the calyx.

The capsule of *S. apetala*, t. 881, is twice as long as the calyx, and the linear leaves, tipped with a bristle, as well as the hairy stems, sufficiently mark that species. The present agrees more in character with *procumbens*, t. 880, but differs widely in habit, and is not procumbent nor perennial.



✓



SAGINA apetala.

Annual Small-flowered Pearlwort.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* 4-leaved. *Petals* 4. *Capsule* of
1 cell.

SPEC. CHAR. Stems nearly upright, hairy. *Petals*
obsolete.

SYN. *Sagina apetala.* *Linn. Mant.* 2. 559. *Sm. Fl.*
Brit. 199. *With.* 216. *Hull.* 38. *Sibth.* 67.
Abbot. 39. *Curt. Lond. fasc.* 5. t. 14. *Dicks. H.*
Sicc. fasc. 3. 6.

Saxifraga anglica alpinefolia annua. *Raii Syn.* 345.

THIS species of *Sagina* is scarcely less frequent than the preceding, but generally found in more dry barren and open places, flowering in May and June.

Root constantly annual. Stems nearly upright, or if they spread they never take root; they differ moreover from those of the last in being clothed with short scattered hairs. Leaves



1. The first part of the document is a list of names and dates.

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SAGINA erecta.

Upright Pearlwort.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* 4-leaved. *Petals* 4. *Caps.* of one cell.

SPEC. CHAR. Stem erect, nearly single-flowered. Calyx-leaves acute. Petals undivided.

SYN. *Sagina erecta.* *Linn. Sp. Pl.* 185. *Huds.* 73. *With.* 216. *Relb.* 74. *Sibth.* 67. *Abbot.* 40. *Curt. Lond. fasc.* 2. *t.* 12. *Dicks. Hort. Sicc. fasc.* 6. 6.

Alfinella foliis caryophylleis. *Raii Syn.* 344. *t.* 15. *f.* 4.

THIS is a little plant of considerable neatness and elegance of structure, which grows frequently on dry gravelly pastures and heaths among grass, flowering in May.

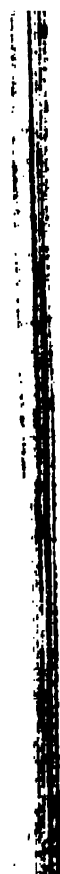
Root small and fibrous. Whole herb smooth and glaucous. Stems two or three inches high, straight, generally very few and upright, sometimes more numerous and divaricated, each bearing one or two flowers. Leaves opposite, lanceolate, acute. Flower-stalks solitary, very long, single-flowered, frequently purplish. Flowers upright, of a bright pearly white. Calyx-leaves lanceolate, acute, with a membranous edge. Petals about as long as the calyx, undivided. Stamina four, short. Stigmas four, club-shaped, nearly sessile, downy. Capsule cylindrical, undivided, opening with eight or ten teeth, of one cell, containing many rough kidney-shaped seeds.

Mr. Curtis has well observed that the fruit of this plant is that of a *Cerastium*. It is certainly not that of the other *Saginae*, which is formed with four entire valves, neither does the habit well agree with the rest of the genus. Professor Ehrhart accordingly made it a new one by the name of *Mænchia*, perhaps not unjustly.

It is proper here to correct an accidental fault in our generic character of *Sagina*, p. 166, "capsule with 4 cells," which ought to be *one cell*, and to express our assent to Mr. Curtis's opinion of the species there described being a *Cerastium*.



... ..



T I L L Æ A muscosa.

*Mossy Tillæa.*T E T R A N D R I A *Tetragynia.*

GEN. CHAR. *Calyx* three or four-cleft. *Petals* three or four. *Capsules* three or four, with many seeds.

SPEC. CHAR. Stems procumbent. Flowers three-cleft.

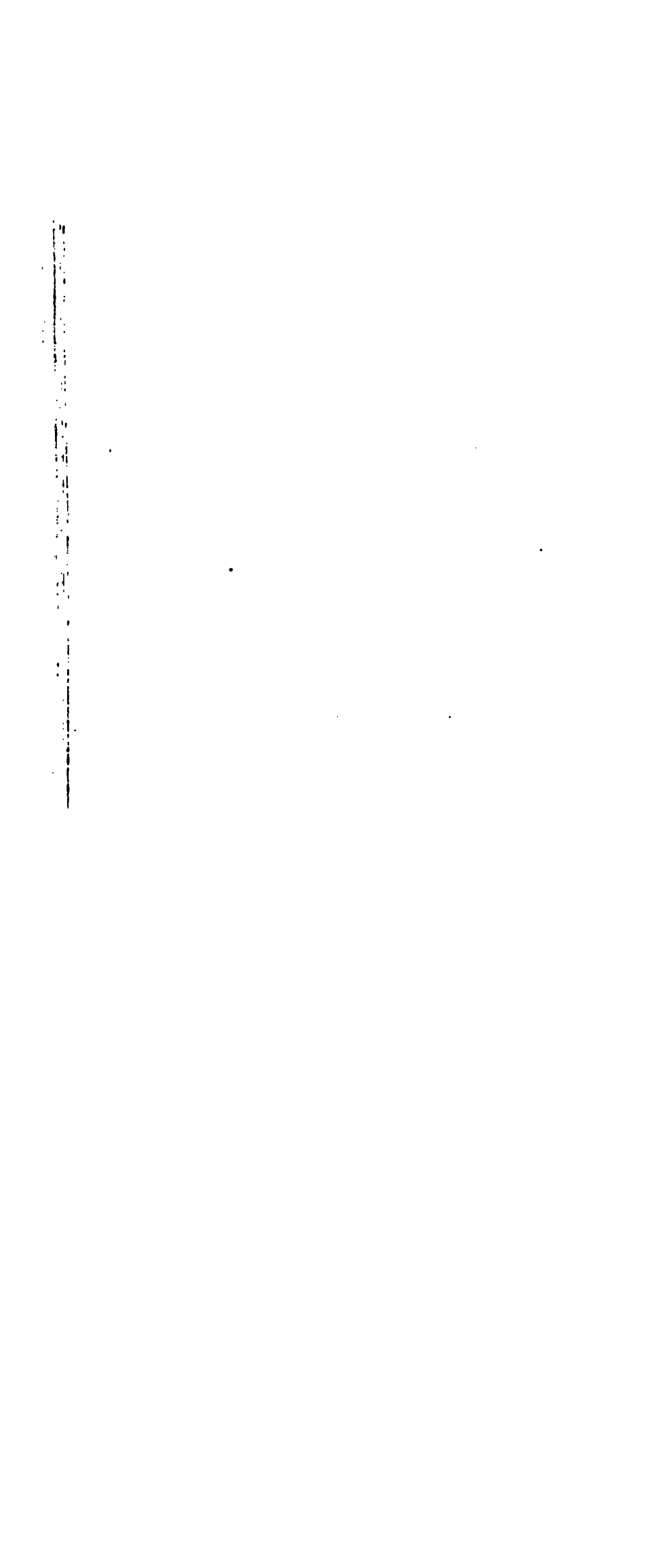
SYN. *Tillæa muscosa.* *Linn. Sp. Pl.* 186. *Hudf. Fl. An.* 132. *With. Bot. Arr.* 132. *Rose's Elem. (Appendix)* 448. *t. 2. f. 2.*

THE most dreary sands are not always unprofitable to a botanist, their loose and fluctuating surface being often arrested for a while, and destined to afford support to a tribe of plants whose constitution is fitted by the all-wise Creator to thrive best on the meagre nourishment they afford. Thus some of the vast African deserts are turned to account by means of *Mesembryanthemums*, *Cotyledons*, and other succulent vegetables, and we have here a production nearly allied to the latter, which flourishes on the driest sandy heaths, where few others would live, and at a season when Mosses and Lichens are dried up. Large tracts of the above description in Norfolk, as Drayton, Cawston and Mouthold heaths, as well as Brandon heath in Suffolk, are enlivened by its red colour from the end of May to September. Mr. Rose says this plant was first determined by the Rev. Mr. Bryant in 1766. Sir Thomas Cullum has found it near Bury, from whence our specimen was sent by W. Matthew, Esq.

The root is small, and annual. Stems after a while procumbent, round, becoming quadrangular when dry. Leaves opposite and strictly perfoliate, very fleshy, obtuse, punctated, concave above, convex on the under side, soon turning red as well as the stem. The flowers are one or two together in the bosoms of the leaves, nearly sessile, and sometimes accompanied with a pair of smaller leaves, denominated *bractæ* by Mr. Rose. Calyx of three still smaller leaves, distinguishable by their sharp points. Petals 3, ovate, acute, pellucid, less than the calyx. Stamina and styles still shorter. Germens 3, ovate, each producing two seeds.

Although this plant is always triandrous, yet as the three remaining species of *Tillæa* have 4 stamina, we cannot (with Dr. Withering) accommodate the English student so far as to remove the genus from the fourth class, where Linnæus has placed it, to the third.





PLANTAS

PLANTAS

- 1. *Planta* ...
- 2. *Planta* ...
- 3. *Planta* ...
- 4. *Planta* ...
- 5. *Planta* ...
- 6. *Planta* ...
- 7. *Planta* ...
- 8. *Planta* ...
- 9. *Planta* ...
- 10. *Planta* ...

In early ... the ...

RADIOLA millegrana.

All-feed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* in many segments. *Petals*
Capsule superior, with 8 valves and 8 cells. *Seeds*
 solitary.

SPEC. CHAR.

SYN. *Radiola millegrana.* *Sm. Fl. Brit.* 202.

R. vulgaris serpyllifolia. *Dill. in Raii Syn.* 345.
t. 15. f. 3.

Linum Radiola. *Linm. Sp. Pl.* 402. *Huds.* 134.
With. 323. *Hull.* 67. *Lightf.* 174. *Dicks. H.*
Sicc. fasc. 10. 7.

IN sandy plashy spots, such as the Toad Rush generally inhabits, the little annual represented on the annexed plate may often be found; yet it should seem to be far from a general plant, not being mentioned in any of our three principal local Floras, though noticed by Mr. Jacob in his *Plantæ Faverhamienses*, and by Mr. Teesdale among the rarer Yorkshire plants, *Tr. of L. Soc.* v. 2. 107. It flowers in July and August, soon evincing the propriety of its old names *Millegrana* and *All-feed*, by the multitude of little capsules, each containing 8 seeds, with which it is laden.

The root is small and fibrous. Stem an inch or two high, repeatedly forked, and forming altogether a kind of *corymbus*. Leaves opposite, sessile, small, ovate, entire, smooth. Flowers springing solitarily from the forks of the stem on little stalks, the upper ones only being terminal. Calyx 4-cleft, its lobes deeply 3-cleft. Petals white, obovate. Stamina about equal to the corolla. Styles short, with capitate stigmas, permanent, each combining 2 of the valves of the capsule. Seeds solitary, compressed, polished.

The remarkable structure of the calyx, and the habit of the plant, not to mention differences of number, surely justify the separation of this genus from *Linum*, in which we follow Dillenius and the present Professor Gmelin.



[1938]

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MYOSOTIS arvensis.

Field Scorpion-grass.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. salver-shaped, 5-cleft, slightly notched; its orifice closed with concave valves.

SPEC. CHAR. Seeds smooth. Leaves oblong. Branches spreading. Clusters many-flowered, without bracteas; their lower stalks axillary and remote. Calyx ovate, with spreading incurved bristles.

SYN. *Myosotis arvensis*. Roth. Germ. v. 2. 222. With. 225. Sibth. 68. Abbot. 40. Willd. Sp. Pl. v. 1. 747.

M. scorpioides arvensis. Linn. Sp. Pl. 188. Huds. 8. Sm. Fl. Brit. α. 212. Ehrh. Herb. 41. Beitr. v. 5. 176.

M. scorpioides hirsuta. Raii Syn. 229.

COMMON in dry fields, and on sunny sandy banks, flowering early in Summer.

The accurate observations of Mr. W. Borrer, and a comparison of them with those of preceding botanists, have enabled us still further to correct the British history of this genus, and to define all the four supposed varieties of *M. scorpioides* as distinct species, besides describing a new one in t. 2559.

The present has an annual root. Stem divided from the bottom into wide-spreading branches. Stem-leaves more tapering at their base than in the other species. Clusters long; very lax in their lower part, the lowest flowerstalk, and sometimes several more, axillary, and becoming remarkably distant as the upper flowers are developed. Calyx ovate, clothed with numerous spreading hooked bristles. Corolla palish purple before it expands, then sky-blue, its valves sunk in the tube, which is longer in proportion than that of *M. palustris*. See t. 1973; and substitute the following synonyms and characters at

tab. 480, fig. 1.

MYOSOTIS versicolor.

Yellow and blue Scorpion-grass.

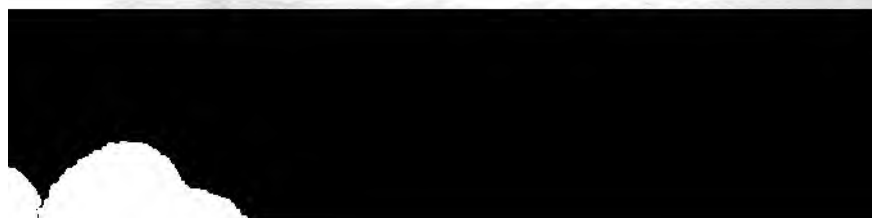
SPEC. CHAR. Seeds smooth. Leaves oblong. Branches ascending. Clusters many-flowered, on long naked stalks, without bracteas. Calyx ovate, with spreading incurved bristles.

SYN. *Myosotis scorpioides* β. Sm. Fl. Brit. 212, with the synonyms.

M. scorpioides collina. Ehrh. Herb. 51. Beitr. v. 5. 177.

RARE in dry sandy places, and in somewhat boggy places. Flowers yellow when they first expand; then blue.





MYOSOTIS scorpioides.

Mouſe-ear Scorpion-graſs.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* ſalver-ſhaped, 5-cleft, ſlightly notched; its orifice cloſed with concave valves.

SPEC. CHAR. Seeds ſmooth. Leaves elliptic-lanceolate. Cluſters of many flowers, without bractææ.

SYN. *Myosotis ſcorpioides.* *Linn. Sp. Pl.* 188. *Hudſ.* 78. *Relb.* 75.

M. arvenſis. *Sibth.* 68. *With.* 225.

M. ſcorpioides hircuta. *Raii Syn.* 229.

β *M. ſcorpioides paluſtris.* *Linn. Sp. Pl.* 188. *Curt. Lond. ſeſc.* 3. t. 13. *Raii Syn.* 229.

M. paluſtris. *With.* 225. *Relb.* 76. *Sibth.* 68.

THE ſmaller variety of this plant, repreſented entire in our figure, is common on dry ſandy or gravelly hillocks, generally near water upon heaths; it is alſo frequent in fallow fields: and a ſtill ſmaller variety, with flowers entirely yellow, grows on walls. It is annual, flowering throughout the ſummer. The large variety, of which we exhibit only a branch, Mr. Curtis having given the whole plant, is ſaid to be perennial; a matter we have never been able to verify, and are inclined to doubt. It grows in ditches and clear ſprings, to which its enamelled blue flowers, generally pink in the bud, are a diſtinguiſhed ornament. There is alſo a variety much like this aquatic one, but more hairy, figured in Ray's *Syn.* by Dillenius, t. 9. We are perſuaded theſe make but one ſpecies. No plant varies more palpably in ſize and hairineſs. The teeth of the calyx in the aquatic kind are indeed generally ſhorter and blunter, which is made a ſpecific diſtinction by ſeveral ingenious authors quoted above, and has almoſt ſtaggered us: as to hairineſs, it varies, like every other part. The ſhape of the leaves is pretty conſtant. Linnæus characterizes them as callous at the tip, which is not very generally perceptible. Neither are the lobes of the corolla ſo evidently or conſtantly notched as his generic definition implies.



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[1871]

MYOTIS palustris

Water Scorpion-grass

ENTOMOLOGICAL NOTES

On the 10th of July, 1871, I was out for a walk in the garden, and was very much surprised to find a large number of small, dark, winged insects, which I at first took to be flies, but on closer inspection found them to be a new species of the genus Myotis. They were very numerous, and were seen in great numbers on the 11th, 12th, and 13th of July. They were very much like the common Myotis, but were much smaller, and had a more slender body. They were also very much more numerous than the common Myotis, and were seen in great numbers on the 11th, 12th, and 13th of July. They were very much like the common Myotis, but were much smaller, and had a more slender body. They were also very much more numerous than the common Myotis, and were seen in great numbers on the 11th, 12th, and 13th of July.

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[1973]

MYOSOTIS palustris.

Water Scorpion-grass.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. salver-shaped, 5-cleft, slightly notched; its orifice closed with concave valves.

SPEC. CHAR. Seeds smooth. Leaves oblong. Clusters many-flowered, without bracteas. Calyx funnel-shaped, its hairs straight and close-pressed.

SYN. Myosotis palustris. Roth. Germ. v. 1. 87. v. 2. 221. Catal. v. 3. 30. With. 225. Hull. 46. Relb. ed. 1. 76. Sibth. 68. Abbot. 40.

M. scorpioides palustris. Ger. em. 337. Linn. Sp. Pl. 188. Sm. Fl. Brit. 212, δ . Huds. 78. Curt. Lond. fasc. 3. t. 13. Raii Syn. 229. Ehrh. Herb. 21.

Scorpiurus n. 591. Hall. Hist. v. 1. 261.

WITH great pleasure we profit of a remark made by the learned Dr. Roth in his *Catalecta*, after his friend Trentepohl, to decide the long-disputed question concerning the British species of *Myosotis*. The acute botanist last mentioned applying our principles, first suggested with regard to *Mentha*, to the present case, has found the pubescence of the calyx confirm all the other less decisive marks, and stamp the present as a very distinct species from our *t.* 480, where is moreover an uncoloured morsel of the plant now before us.

The peculiar characters then of *M. palustris*, a common plant about rivers and clear watery places, where it blossoms in July and August, are the creeping perennial root, and the funnel-shaped calyx, *fig.* 1. clothed all over with straight, rigid, shining, close-pressed hairs, and having its teeth broad, triangular, shorter than the tube. The enamelled brilliancy of the corolla renders this flower generally admired. The calyx of *M. arvensis* (*M. scorpioides*, *t.* 480,) is ovate, with deeper and sharper segments, and clothed with spreading incurved bristles, by which it sticks to the coats of animals; see *fig.* 2. Perhaps the yellow-flowered kind, *Fl. Brit.* β , is indeed a variety of this last, but the γ , which grows in woods and is the tallest of all, though its calyx agrees with *arvensis*, seems distinct. We hope to examine it another spring. We here acknowledge the favour of our excellent friend Professor Martyn, who 9 years ago furnished us with hints on the above subject. See his edition of Miller's Dictionary.

1973



Sim. n. 1973, published by the Society London.





MYOSOTIS rupicola.

*Rock Scorpion-grass.**PENTANDRIA Monogynia.*

GEN. CHAR. Cor. salver-shaped, 5-cleft, slightly notched; its orifice closed with concave valves.

SPEC. CHAR. Seeds smooth. Leaves oblong; the radical ones on long footstalks. Clusters many-flowered, without bractees. Calyx divided above half way down, its hairs copious, spreading, and elongated.

WE have long ago received, from the Highlands of Scotland, specimens of this plant, gathered there by Mr. G. Don, the late Mr. J. Mackay, and other friends. Mr. W. Borrer found it abundantly on the rocks of Ben Lawers, and has pointed out the marks by which we have ventured to establish it as a species.

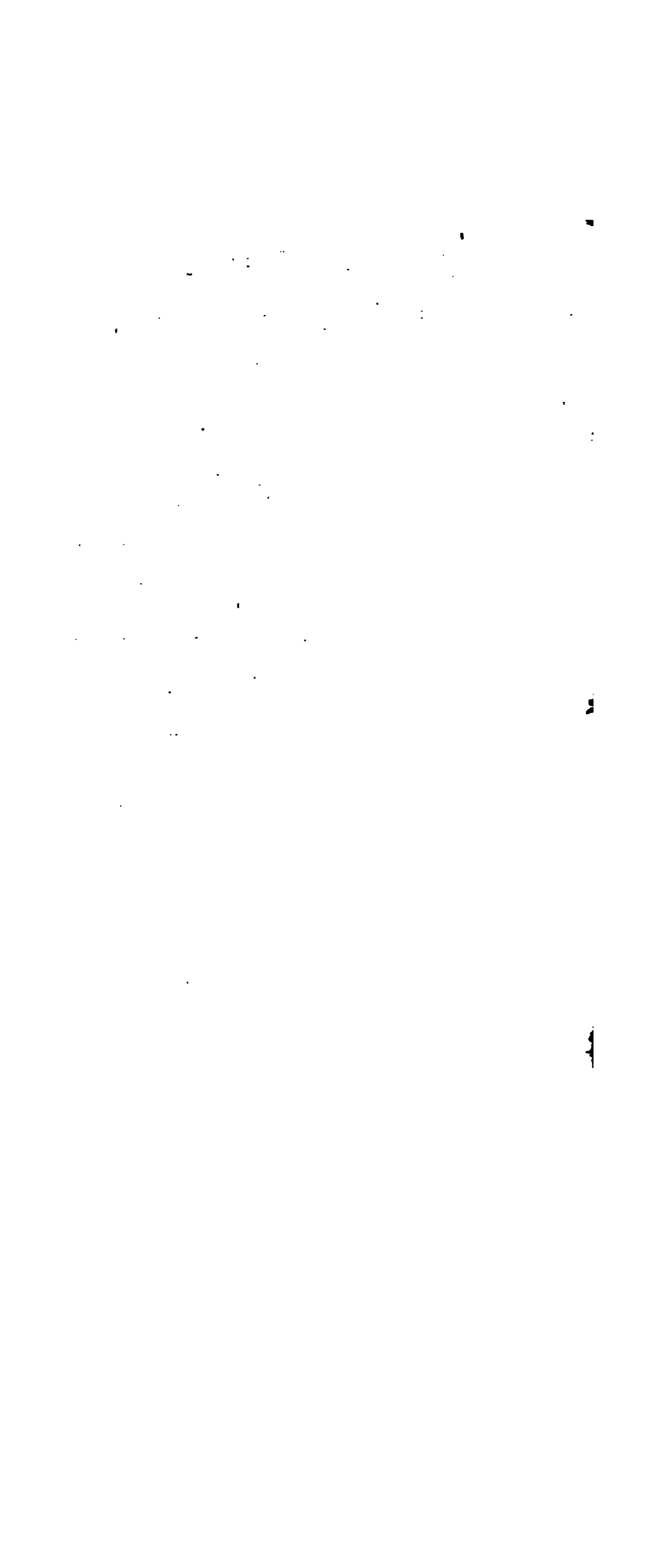
The root appears to be perennial, as in *palustris*, t. 1973, to which the plant before us is most allied; but the flowers are more large and showy than even in that beautiful species, pink in the bud, bright blue when expanded. Their calyx is also more deeply cut, and covered with longer, more spreading and copious hairs, of which Mr. Borrer found the lowermost slightly curved, though not positively hooked, and we remark the same in Swiss specimens. The long slender stalks of the radical leaves afford another striking distinctive mark.—We have from M. Villars a specimen of this *Myosotis*, by which it proves to be what he mentions as the alpine state of *M. scorpioides*, in his *Plantes du Dauphiné*, v. 2. 458,

2599



Illustrated by J. C. Smith, London





LITHOSPERMUM officinale.

*Common Gromwell.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* funnel-shaped, pervious, and naked.
Cal. in five divisions.

SPEC. CHAR. Seeds smooth. Corolla scarcely longer
 than the calyx. Leaves lanceolate.

SYN. *Lithospermum officinale.* *Linn. Sp. Pl.* 189.
Huds. Fl. An. 79. *With. Bot. Arr.* 189. *Relb.*
Cant. 76.

Lithospermum, seu Milium Solis. *Raii Syn.* 228.

FOUND here and there flowering in May, in a dry, gravelly, or chalky soil. Root perennial and strong. Stems erect, roundish, rough with close-pressed bristles, and clothed with alternate, lanceolate, entire leaves, which are slightly revolute in their margin, hairy beneath, rough above with minute cartilaginous tubercles, as in many of this tribe. Each of the numerous flowering branches terminates in a recurved leafy spike of pale yellowish flowers; in the seeding state these branches become erect, much elongated, and the leaves they bear are considerably enlarged, being broader than those on the stem. It is seldom that more than two seeds are perfected in each flower. They are exquisitely polished, of a grey or yellowish hue, very hard, but brittle, seeming of a stony substance; whence the generic name, and whence also the ancient celebrity of these seeds as a cure for the stone, though it is difficult to imagine on what principle stony substances should be given as a cure of that complaint. The excellent Ray, too credulous in medical matters, celebrates them, trusting to others for that honesty and judgment in their studies which he exercised in his own. Others have asserted that the seed effervesces with acids; but Linnæus (*Fl. Suec.*) contradicts this, and we have carefully made the experiment without success.



Primula veris L. 1753

LITHOSPERMUM arvense.

*Corn Gromwell.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* funnel-shaped, pervious and naked.
Cal. in five divisions.

SPEC. CHAR. Seeds rugged. Corolla obtuse, scarcely longer than the calyx.

SYN. *Lithospermum arvense.* *Linn. Sp. Pl.* 189. *Huds. Fl. An.* 79. *With. Bot. Arr.* 189. *Relb. Cant.* 76.
Buglossum arvense annuum, Lithospermi folio. Rar. Syn. 227.

FREQUENT in corn-fields and waste places, flowering from May to July. The root is annual, small, and not much branched; its bark abounding with a deep red dye, which stains paper, linen, &c. of the same colour, and is easily communicated to oily substances. Hence the name of Bastard Alkanet, sometimes given to this plant. Linnæus, in *Flo. Suecica*, says, the country girls in the north of Sweden use the root to paint their faces, by which they should seem to be terribly deficient either in healthy natural bloom or in taste.

The stem is often very much branched, round, rough, clothed with alternate, lanceolate, entire, rough and rigid leaves, in the axillæ of the uppermost of which the flowers stand solitary, nearly sessile. The corolla is small and white, with fine swellings around its orifice, exactly as in *L. purpureo-cæruleum*, t. 117. Very near the bottom of its tube stand the 5 very short and minute stamina, on a level with the style, which is about half as long as the tube. The seeds are brown, rugged, and produced in great abundance, so that the plant is often a very troublesome weed.





[117]

THEORY OF THE EARTH

By J. H. VAN DER KAM

LECTURE NOTES

The Earth is a sphere of about 8000 miles in diameter. It is composed of a solid inner core, a liquid outer core, and a solid mantle. The crust is the thin outer layer of the Earth, which is composed of rocks and minerals. The crust is divided into tectonic plates, which move relative to each other. The boundaries between these plates are called plate boundaries. There are three types of plate boundaries: divergent, convergent, and transform. Divergent boundaries are where two plates move apart, convergent boundaries are where two plates move together, and transform boundaries are where two plates slide past each other. The movement of these plates is driven by convection in the mantle.

The Earth's interior is divided into several layers. The innermost layer is the inner core, which is solid and composed of iron and nickel. The outer core is liquid and also composed of iron and nickel. The mantle is the layer between the core and the crust, and it is composed of silicate rocks. The crust is the thin outer layer of the Earth, which is composed of rocks and minerals. The crust is divided into tectonic plates, which move relative to each other. The boundaries between these plates are called plate boundaries. There are three types of plate boundaries: divergent, convergent, and transform. Divergent boundaries are where two plates move apart, convergent boundaries are where two plates move together, and transform boundaries are where two plates slide past each other. The movement of these plates is driven by convection in the mantle.

LITHOSPERMUM purpuro-cœruleum.

Creeping Gromwell.

PENTANDRIA Monogynia.

GEN. CHAR. *Corolla* funnel-shaped, pervious, and naked. *Calyx* in five divisions.

SPEC. CHAR. Seeds smooth. *Corolla* obtuse, much longer than the calyx. Leaves lanceolate. Barren stems creeping.

SYN. *Lythospermum purpuro-cœruleum*. Linn. *Sp. Pl.* 190. *Huds. Fl. An.* 79. *With. Bot. Arr.* 190.

L. majus Dodonæi, flore purpureo, femine *Anchuse*. *Raii Syn.* 229.

MR. Latham of Dartford, the celebrated ornithologist, has favoured us with wild specimens of this uncommon species of *Lithospermum*, collected by himself in a chalky soil not far from Greenhithe in Kent. It has hitherto been found only in two or three spots in the west of England, being most abundant in the more temperate parts of Europe.

The long woody perennial root produces many round, hairy, leafy stems, most of which are procumbent, and throw out roots: the flowering ones only are perfectly erect, and about 12 or 18 inches high. Leaves numerous, alternate, lanceolate, acute, clothed with short close-pressed bristles, which on the upper side of the leaf often arise from minute white tubercles or warts, as in many of this natural order. The beautiful flowers appear in April or May, standing erect in a sort of double leafy spike, whose extremities are a little curved downwards before flowering. *Calyx* hairy, divided to the base into five very narrow linear obtuse segments. *Corolla* about twice as long (not several times longer), first purple, then blue, with a pale reddish tube; around its orifice are five blunt hairy swellings, which however do not close it. The stamina are somewhat shorter than the tube, and united with that part half way up. Style about as long, with a slightly-notched stigma. Germen and seeds very smooth; the latter are frequently abortive, as in most plants that increase much by their roots.



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ANCHUSA officinalis.

*Common Alkanet.**PENTANDRIA Monogymia.*

GEN. CHAR. *Cor.* funnel-shaped: its orifice closed with valves. *Seeds* hollowed out at the base.

SPEC. CHAR. Spikes imbricated, the flowers all on one side. *Bractææ* ovate. Leaves lanceolate.

SYN. *Anchusa officinalis.* *Linn. Sp. Pl.* 191. *Sm. Fl. Brit.* 214. *Fl. Dan.* 1. 572.

A. tinctoria. *Woodv. Med. Bot.* 1. 92.

Buglossa vulgaris. *Ger. em.* 798.

FOR this entirely new accession to the catalogue of British plants, we are indebted to the Rev. Mr. Thomas Butt, of Areley, Staffordshire, who found it plentifully, and to all appearance perfectly wild, on the links near Hartley Pans in Northumberland, and favoured us with living specimens. It is perennial, flowering in June and July.

Root spindle-shaped, black on the outside. Whole herb rough with bristly hairs. Stem about 18 inches or two feet high, erect, angular, leafy, a little branched, panicked at the top. Leaves alternate, lanceolate, acute, entire, scarcely at all waved.

662



ANCHUSA *sempervirens.*

Evergreen Alkanet.

PENTANDRIA *Monogynia.*

GEN. CHAR. *Corolla* funnel-shaped: its orifice closed with valves. *Seeds* hollowed out at the base.

SPEC. CHAR. Flower-stalks axillary, bearing little heads of flowers, accompanied by two leaves.

SYN. *Anchusa sempervirens.* *Linn. Sp. Pl.* 192. *Huds. Fl. An.* 80. *With. Bot. Arr.* 191. *Relb. Cant.* 77.

Buglossum latifolium semper virens. *Raii Syn.* 227.

NO plant can be more common than this is in waste ground in and about Norwich; throughout most other parts of England it is rarely met with. The first flowers appear in May, and are followed by a long succession of others. They are beautiful in their form and colour when closely examined, otherwise the plant is of an unseemly appearance; it is always, however, in leaf, and has from thence obtained the name of *sempervirens*, though perfectly herbaceous, and not at all shrubby. Its habit and generic characters approach nearly to those of *Myosotis*, the corolla being rather salver-shaped, than of the true funnel form of other species of *Anchusa*.

The leaves are very rough; the juices of the plant mucilaginous, as in others of this tribe. We do not know of its being applied to any use.







CYNOGLOSSUM officinale.

*Common Hounds-tongue.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* funnel-shaped ; orifice closed with arched valves. *Seeds* depressed, fixed to the style by their inner margin only.

SPEC. CHAR. *Stamina* shorter than the corolla. *Leaves* broad-lanceolate, downy, sessile.

SYN. *Cynoglossum officinale.* *Linn. Sp. Pl.* 192. *Sm. Fl. Brit.* 216. *Huds.* 80. *With.* 227. *Hull.* 46. *Relb.* 77. *Sibth.* 69. *Abbot.* 41. *Curt. Lond. fasc.* 4. t. 16. *Woodv. Suppl.* t. 216. *Cynoglossum.* *Raii Syn.* 226.

ABUNDANT in waste ground and by road sides, flowering in June and July.

The root is biennial. Whole herb downy and soft to the touch, exhaling a strong foetid smell resembling that of mice, or, as some say, the urine of dogs, whence the plant has obtained a coarse, though appropriate, denomination, which may be found in Gerarde's herbal. The stem is about 2 feet high, round, often furrowed, leafy. Leaves remarkably soft and pliable, entire, waved, veiny, of a dull grayish green; the lowermost largest, stalked, lanceolate; the upper ones embracing the stem, and almost heartshaped. Flowers in terminal recurved clusters, growing out into spikes forming a panicle. Calyx downy. Corolla dull purplish red, its lobes rounded, as are also the little hollow valves that close the mouth and conceal the stamina. Stigma acute. Seeds 4, horizontal, obovate, attached by their points, each clothed in a flat, thick coat, rough with numerous hooked prickles, by which the seeds stick to the coats of animals, and are widely dispersed.

The *Cynoglossum* is narcotic, astringent and mucilaginous, but dangerous to be taken internally, at least in quantity.



Veronica filiformis L.

CYNOGLOSSUM sylvaticum.

*Green-leaved Hound's-tongue.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* funnel-shaped; orifice closed with arched valves. *Seeds* depressed, fixed to the style by their inner margin only.

SPEC. CHAR. Stamina shorter than the corolla. Leaves lanceolate, somewhat spatulate, shining, partly naked, rough beneath.

SYN. *Cynoglossum sylvaticum.* *Haenke in Jacq. Coll. v. 2. 77. Sm. Fl. Brit. 216. With. 228. Hull. 46. Sym. 51. Sibth. 70.*

C. officinale γ . *Linn. Sp. Pl. 193. β . Huds. 80.*

Cynoglossa folio virente. Raii Syn. 226.

THE plant from which our specimen was taken was collected by the Rev. Dr. Abbot in Oxfordshire. This is unquestionably a distinct species from *C. officinale*, t. 921. Its leaves are more dilated at the base, of a bright and shining green, destitute of the soft downiness and grey hue of that common plant, though more or less hairy underneath: both sides are roughish with small tubercles. Calyx hairy. Flowers at first reddish, assuming a blueish hue as they advance to maturity. The whole herb is almost without any foetid smell. The root is biennial, and the flowers appear in June. Mr. J. D. Sowerby has observed that wherever a flower is cut off, a sweet honey-like juice oozes from the wound.

This species is found about hedges in several parts of England, especially in Essex; but, like many other biennials or annuals, it often changes its abode. It is also a native of Switzerland, being Haller's *Cynoglossum*, No. 588.

1642



Depictio Plantarum by J. P. Kew, London

1. The first part of the document is a list of names and dates.

PULMONARIA officinalis.

*Common Lungwort.**PENTANDRIA Monogynia.*

GEN. CHAR. *Corolla* funnel-shaped, pervious. *Calyx* prismatic, five-sided.

SPEC. CHAR. *Calyx* nearly as long as the tube. Upper leaves ovate, acute, rough.

SYN. *Pulmonaria officinalis*. *Linn. Sp. Pl.* 194. *Hudf. Fl. An.* 81. *With. Bot. Arr.* 193.

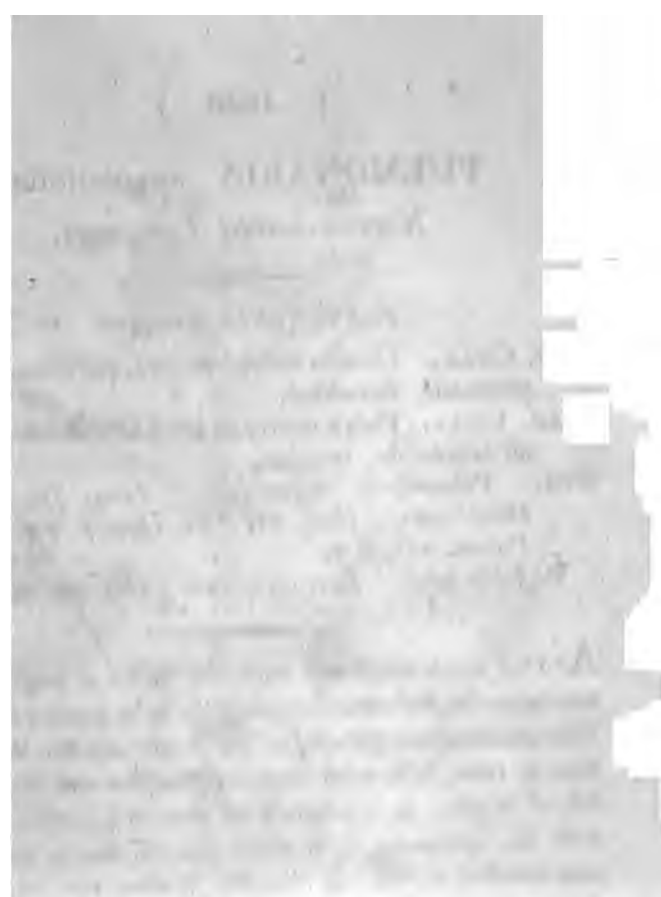
P. foliis Echii. *Rati Syn.* 226. *Ger. em.* 808.

HOWEVER common in every garden, the *Pulmonaria* is of very unfrequent occurrence with us in a wild state, inasmuch that authors are not agreed about the identity of our British species (see *Withering*). We have fortunately obtained, by the favour of Mr. E. Robson, a wild specimen from near Darlington, which being compared with the Linnean herbarium, decides the *P. officinalis*, at least, to be a British plant. Mr. Goodyer's plant from the New Forest is most probably the same. How far the real *P. angustifolia* (*Herb. Linn.*) may be specifically distinct, we dare not determine. The *P. maculosa*, *Ger. em.* 808. *f.* 1. should seem to be a broad-leaved variety of ours, from whence the specific character of *Linnaeus* was taken, which we have ventured to alter that it may better accord with our specimens, and indeed with his own, which exhibit the usual appearance of the wild plant throughout Europe. In Italy nothing is more common in groves and thickets.

The root is perennial; stems simple, erect, near a foot high, angular and rough. Lower leaves much lengthened out at the base, of a light green; the upper ones only, which are ovate, and rather broad, being speckled with white on the upper side. This however is a variable circumstance. The flowers appear in April or May. The plant loves shade. Every part is mucilaginous; but its reputation as a cure for coughs, arose not from that circumstance, but from its speckled appearance, resembling the lungs!

Much conformity is observable between the structure of this flower and that of *Lithospermum purpureo-cæruleum*, *t.* 117. Indeed the genera of many of the *Asperifoliae* are somewhat too nearly allied.





PULMONARIA angustifolia.

*Narrow-leaved Lungwort.**PENTANDRIA Monogynia.*

GEN. CHAR. *Corolla* funnel-shaped, pervious. *Calyx* prismatic, five-sided.

SPEC. CHAR. *Calyx* nearly as long as the tube. Leaves all lanceolate, rough.

SYN. *Pulmonaria angustifolia*. *Linn. Sp. Pl.* 194. *With.* 228. *Hull.* 47. *Fl. Dan.* t. 483. *Park. Parad.* 251. f. 2.

P. foliis echii. *Raii Syn.* 226. *Ger. em.* 808.

AFTER much doubt and confusion we are at length able to determine the *Pulmonaria angustifolia* to be a native of Britain. This specimen was gathered by Mr. Turner and Mr. W. Borrer, June 3, 1806, in a wood between Newport and Ride in the Isle of Wight. It is certainly the plant of Linnæus, agreeing with his specimens from Scara (see *Fl. Suec.*), and we are now satisfied of its being what Mr. Waring sent Mr. Robson from Flintshire; see Withering. It must also be what Ray intended, and we therefore venture to remove his synonym from the *P. officinalis*, *Fl. Brit.* 217, our t. 118; from which last also the citation of Gerarde is to be erased, and replaced by his *P. maculosa*. We are obliged to Mr. Robson for pointing out an error in our t. 118, the uncoloured radical leaves of which belong to *P. angustifolia*, and were probably sent us by mistake. Hence arose our doubts as to the distinction of the two species, which are now removed.

The plant before us is known from the other, so common in gardens, by being much less spotted, and especially by the long lanceolate form of its radical leaves, which are not at all cordate or ovate. There is also a difference in the aspect of the two plants and their flowers. Both are perennial, flowering about May.





(181)

SCIENCE AND ART

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PULMONARIA maritima.

*Sea Lungwort.**PENTANDRIA Monogynia.*

GEN. CHAR. Cor. funnel-shaped, pervious. Calyx prismatic, five-sided.

SPEC. CHAR. Calyx short. Leaves ovate. Stem much branched, procumbent.

SYN. *Pulmonaria maritima*. Linn. *Sp. Pl.* 195. *Huds. Fl. An.* 81. *With. Bot. Arr.* 194. *Dicks. H. Sicc. fasc.* 1. 3. *Lightf. Scot.* 134. t. 7.

Echium maritimum. *Raii Syn.* 228.

A BEAUTIFUL ornament of the sandy sea-coasts of Scotland and the north of England, for specimens of which we are obliged to Mr. Robson. It flowers in July, and is perennial according to the opinion of most authors, though the observations of Dillenius in the *Hortus Elthamensis* seem to prove it biennial. There is no less uncertainty about the genus of this plant. It is certainly a very bad *Pulmonaria*, the calyx being too deeply divided to be deemed prismatic, which is also the case in *P. virginica* & *sibirica*. Dillenius (as well as Linnæus formerly) made it a *Cerinthe*, with which it most agrees in habit, but the essential character of *Cerinthe* is not to be found in the fruit. In fact the genera of this order (*Asperifoliae*), though so multiplied, are many of them ill defined and unnatural, as we have before observed, p. 118.

The root is fleshy. Stems procumbent, much branched. Leaves ovate, entire, undulated, covered with a beautiful glaucous efflorescence, and sprinkled with minute cartilaginous tubercles, characteristic of the order. Flowers on longish simple flower-stalks, one or two together, sometimes axillary, and generally clustered about the extremities of the branches. Calyx glaucous, in 5 ovate acute segments, its base a little prismatic. Corolla with a short thick tube, and a small border in 5 obtuse segments, red at first, then blue; orifice a little toothed, but pervious. Stamina inserted about the middle of the tube, and projecting beyond the orifice. Stigma capitate. The whole plant turns black in drying, unless it be first immersed in fresh water for 24 hours to extract the sea-salt, according to Dillenius.



Leaves opposite, short, ovate, lanceolate

SYMPHYTUM officinale.

*Common Comfrey.**PENTANDRIA Monogynia.*

GEN. CHAR. Limb of the *corolla* tubular, swelling; its orifice closed with awl-shaped rays. *Cal.* in 5 deep segments. *Seeds* 4, naked.

SPEC. CHAR. Leaves ovato-lanceolate, decurrent.

SYN. *Symphytum officinale.* *Linu. Sp. Pl.* 195. *Sm. Fl. Brit.* 218. *Huds.* 81. *With.* 230. *Hull.* 47. *Relb.* 78. *Sibth.* 70. *Abbot.* 42. *Curt. Lond. fasc.* 4. t. 18. *Woodv. Suppl. t.* 215.

S. magnum. *Raii Syn.* 230.

A FREQUENT native of watery places, banks of rivers, and about ditches, flowering from the end of May to September.

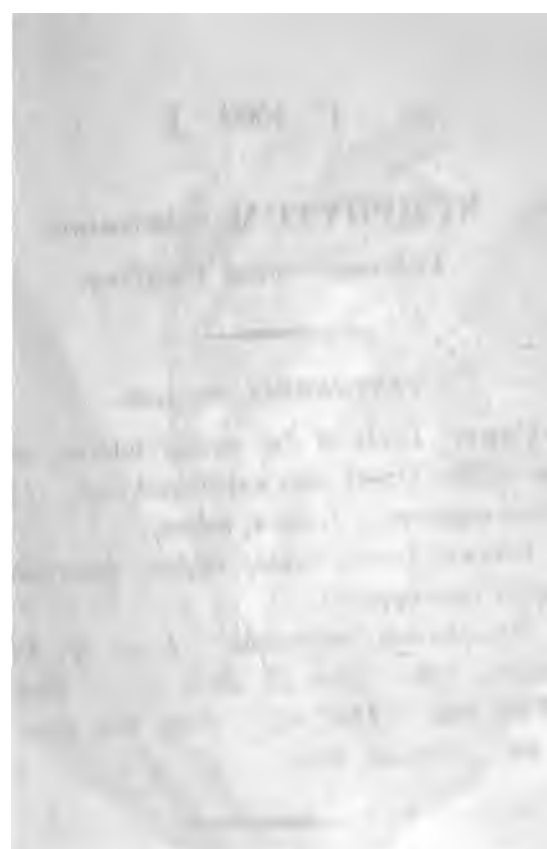
Root perennial, fleshy, externally black. Stem two or three feet high, upright, leafy, winged, branched at the top, clothed with short bristly hairs that point rather downward. Leaves





Published Dec^r 1. 1800 by J. Sowerby, London.

1



SYMPHYTUM tuberosum.
Tuberous-rooted Comfrey.

PENTANDRIA Monogynia.

GEN. CHAR. Limb of the *corolla* tubular, swelling; its orifice closed with awl-shaped rays. *Cal.* in 5 deep segments. *Seeds* 4, naked.

SPEC. CHAR. Leaves ovate, slightly decurrent; the upper ones opposite.

SYN. *Symphytum tuberosum.* *Linn. Sp. Pl.* 195. *Lightf.* 1091. *Sm. Fl. Brit.* 219. *Huds.* 648. *With.* 230. *Hull.* 47. *Jacq. Obs. fasc.* 3. 12. t. 63. *Ger. em.* 806.

WE have been obliged to delineate this plant from a garden specimen at Mr. Forster's of Clapton; for although it has been sent us from Durham, many different times, by Mr. Robson, we were never so fortunate as to receive it in a fit state for drawing. We know it to be what Lightfoot intended, and we believe it may not be rare in the northern counties, though so like the Common Comfrey as to be neglected for a starved plant of that species.

It is perennial and flowers in June or July. Root tuberous, white externally, not black. Stem a foot high, scarcely winged, rough with deflexed hairs. Stem-leaves ovate, on winged stalks, which are a little decurrent. Clusters of flowers in pairs, terminal. Flowers few, yellowish white, cylindrical. Calyx but little spreading. Rays of the flower finely toothed, or roughish, at each edge, rather longer than in *S. officinale*.

Mr. Lightfoot, on the authority of his friend Yalden, first introduced this plant to British botanists.



Primula vernalis L. *Primula vernalis* L.

BORAGO officinalis.

Common Borage.

PENTANDRIA Monogynia.

GEN. CHAR. *Corolla* wheel-shaped : the orifice closed with rays.

SPEC. CHAR. Leaves all alternate. Calyx spreading.

SYN. *Borago officinalis*. *Linn. Sp. Pl.* 197. *Hudf. Fl.*

An. 82. *With. Bot. Arr.* 197. *Relb. Cant.* 78.

Borrigo hortensis. *Raii Syn.* 228.

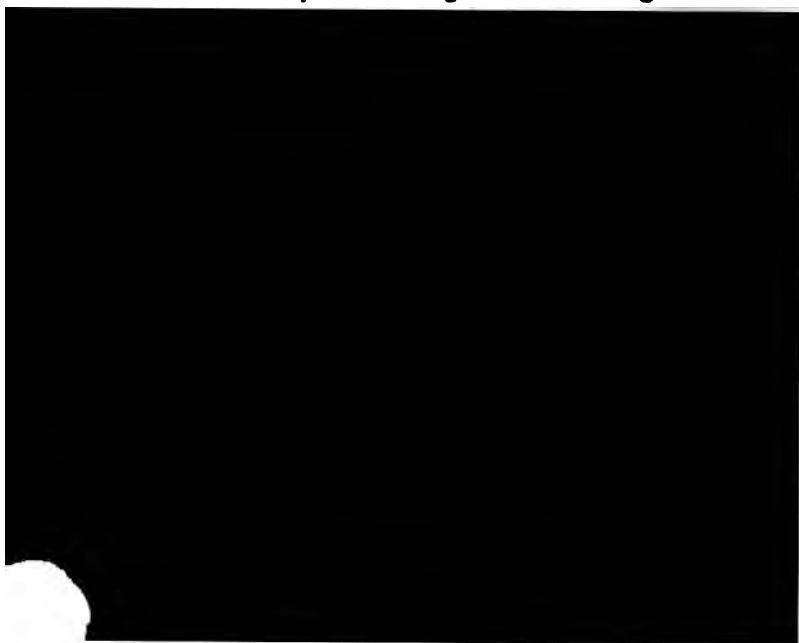
THE Borage, whose bright blue flowers decorate almost every dunghill and heap of rubbish, is one of those vegetables which, although not originally of British growth, are now so perfectly naturalized as to find a place in every catalogue of our wild plants. It is said to have been brought from the Levant; and was at first cultivated in gardens as a medicinal herb, being reckoned, apparently without reason, one of the four cordial flowers. Hence the old adage,

“ Ego Borago gaudia semper ago ”—

which Gerarde renders,

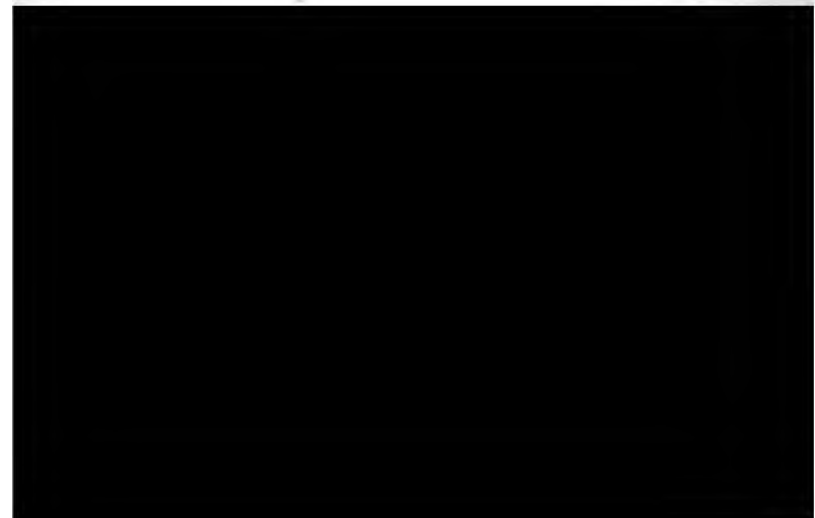
“ I Borage bring always courage—”

a translation worthy of the elegance of the original. The





J. Smeaton del. B. C. 1, 1791.



ASPERUGO procumbens.

*German Madwort.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cal.* of the fruit compressed, its two margins flat and parallel, sinuated.

SPEC. CHAR. *Calyx* of the fruit flattened throughout.

SYN. *Asperugo procumbens.* *Linn. Sp. Pl.* 198. *Sm.*

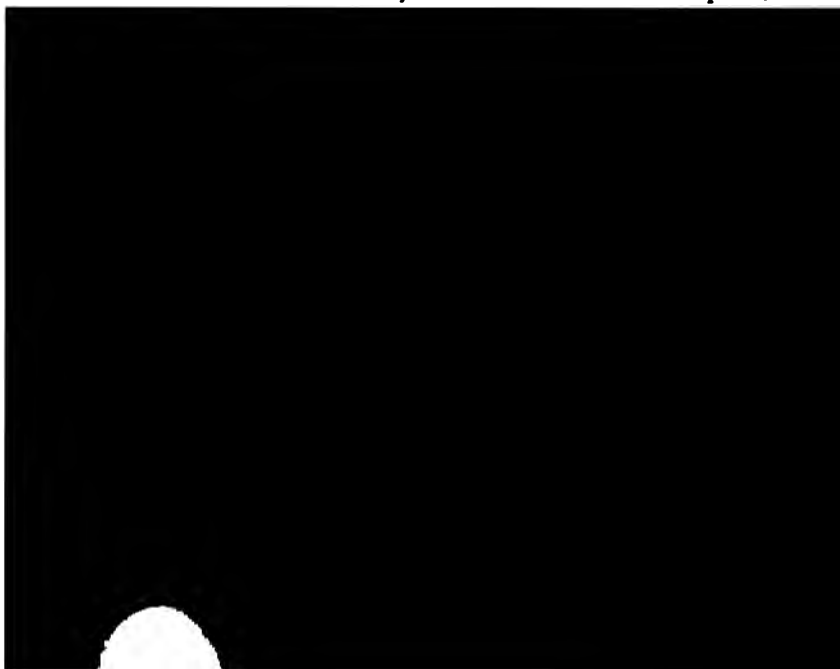
Fl. Brit. 220. *Huds.* 82. *With.* 231. *Hull.* 47.

Relb. 79. *Fl. Dan. t.* 552.

A. vulgaris. *Raii Syn.* 228.

THIS is a plant of very rare occurrence. Ray mentions Boxley in Suffex, and the Holy Island as its places of growth. He says also "near Newmarket, where I hear it is now lost." The specimen before us was found at Wangford near Brandon by Francis Eagle jun. Esq., and sent by the Rev. Mr. Hemsted*. It is an annual plant, and flowers in July.

The root is small and slender. Herb rough and sticking to the hands or clothes by means of small hooked spines, like





4.

[48]

ALCOHOLIC BEVERAGES

Small BOTTLES

THE FOLLOWING ARE

THE NAMES OF THE

BEVERAGES WHICH

ARE NOW ON HAND

AT THE

STORE

OF

THE

STORE

OF

THE

STORE

OF

THE

STORE

OF

THE

STORE

OF

THE

LYCOPSIS arvensis.

*Small Bugloss.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* with a curved tube, the mouth closed with convex scales.

SPEC. CHAR. Leaves lanceolate, bristly. Calyx white in flower erect.

SYN. *Lycopsis arvensis.* *Linn. Sp. Pl.* 199. *Sm. Fl. Brit.* 221. *Huds.* 82. *With.* 231. *Hull.* 47. *Relb.* 79. *Sibth.* 71. *Abbot.* 43. *Curt. Lond. fasc.* 5. *t.* 17.

Buglossa sylvestris minor. *Raii Syn.* 227.

COMMON every where in fields and on dry hedge banks during the early part of summer, flowering chiefly in June, after which the herb is dried up, scatters its seeds, and the small annual root withers away.

The stem is upright, straight, more or less branched, angular, leafy. Leaves alternate, lanceolate; heart-shaped, and clasping the stem at their base, (except the radical ones, which taper into a footstalk,) waved in their margin. Flowers in terminal revolute spikes soon lengthened out into leafy racemi. Calyx of 5 lanceolate segments, erect both in flower and fruit. Tube of the corolla white, cylindrical, remarkably, and seemingly artificially, bent, containing the 5 short stamina at the curved part. Its mouth is completely closed by 5 convex white downy valves, which elegantly contrast with the bright blue of the limb of the corolla, and entirely conceal all the organs of fructification. Four vertical angular rugged naked seeds are at length contained in the enlarged calyx. Every part of the herb, except the corolla, is clothed with pungent bristles. Its juices are mucilaginous, like those of Borage, to which it is nearly akin, however widely different in the corolla and stamina; see *vol.* 1. *t.* 36.



ECHIU M italicum.

White Viper's-Bugloss.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* irregular, its orifice open and naked.
Stigma cloven.

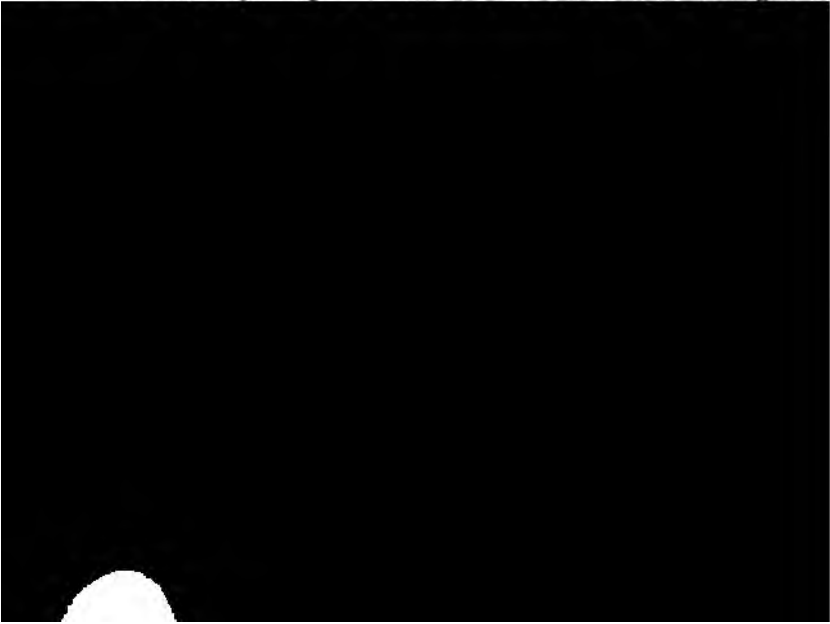
SPEC. CHAR. Stem erect, hairy. Spikes lateral, very
hairy, spreading upward. Corolla nearly equal.
Stamens very long.

SYN. *Echium italicum.* *Linn. Sp. Pl.* 200. *Sm. Fl.*
Brit. 221. *Huds.* 83. *With.* 232. *Hull.* 48.
ed. 2. 61. *Dicks. H. Sicc. fasc.* 14. 8.

Lycopsis. Raii Syn. 227.

A NATIVE of Jersey, for specimens of which from Chelsea garden we are obliged to our kind friend Mr. Fairbairn. It is biennial, flowering in July.

At *t.* 181 we have expressed doubts, which are now removed, respecting the distinction betwixt this and *E. vulgare*.



2061.



Des. & engr. by J. P. Smith, London

2061.



Alnus incana L. f. *Alnus* L.

E C H I U M vulgare.

*Common Viper's Bugloss.**PENTANDRIA Monogynia.*GEN. CHAR. *Cor.* irregular, its orifice open and naked.

SPEC. CHAR. Stem bristly and tuberculated. Stem-leaves lanceolate, and rough with stiff hairs. Flowers in lateral spikes.

SYN. *Echium vulgare.* *Linn. Sp. Pl.* 200. *Huds. Fl. An.* 83. *With. Bot. Arr.* 200. *Relb. Cant.* 80. *Rail Syn.* 227.

A BEAUTIFUL and magnificent, though very vulgar weed, whose frequency in every high-way and field, especially in a light soil, makes us despise it as an unprofitable intruder; yet we have seen inhabitants of tropical countries, on their arrival in Europe, so charmed with the viper's bugloss, as to call it worthy to "decorate the gardens of the gods." The dry fields of Cambridgeshire and Norfolk are perfectly blue with these flowers in June and July, nor is any part of England without more or less of them.





Salvia officinalis L.



PRIMULA vulgaris.

*Common Primrose.**PENTANDRIA Monogynia.*

GEN. CHAR. *Capsule* 1-celled, superior. *Tube* of the *corolla* cylindrical, mouth pervious. *Stigma* globose.

SPEC. CHAR. Leaves dentated, wrinkled. Border of the *corolla* flat.

SYN. *Primula vulgaris.* *Huds. Fl. An.* 83.

P. acaulis. *Witb. Bot. Arr.* 204.

P. veris var. γ . *Linn. Sp. Pl.* 205. *Fl. Dan. t.* 194.

P. veris vulgaris. *Raii Syn.* 284.

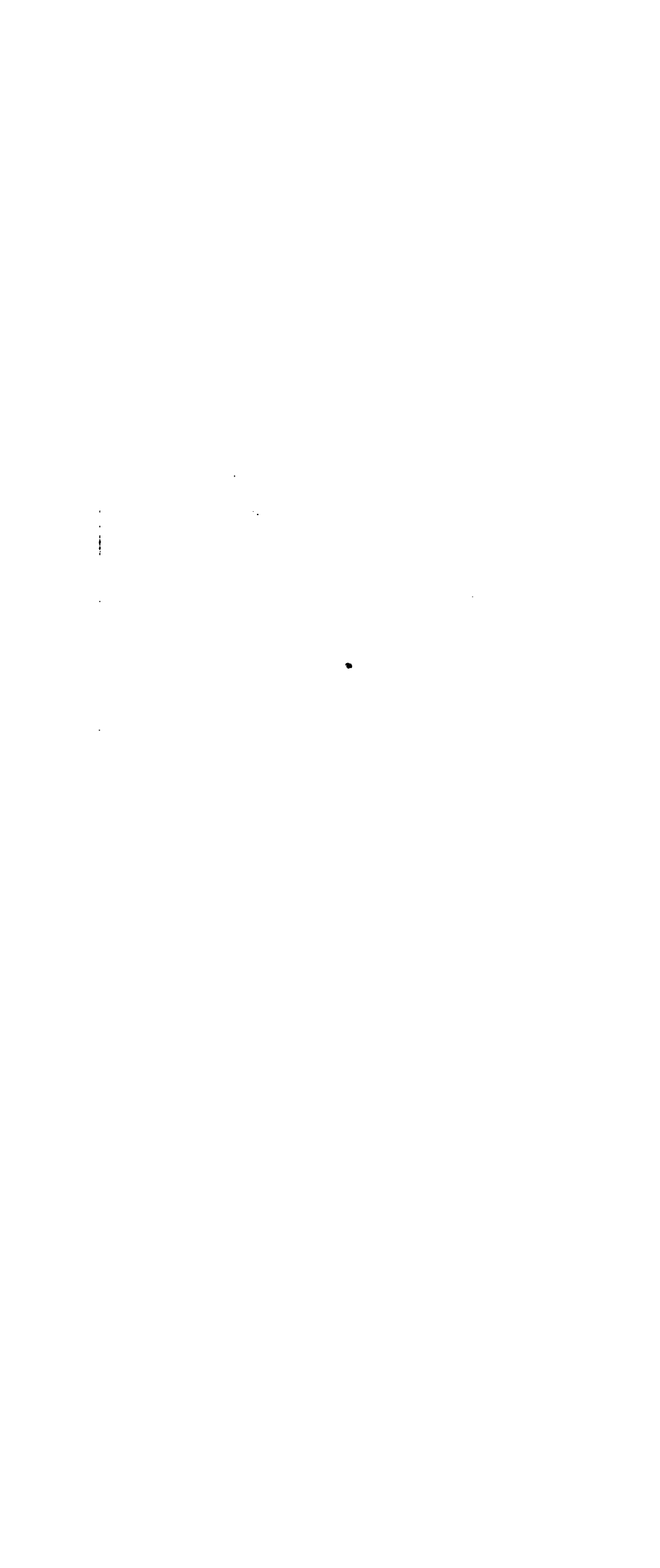
LINNÆUS, ever desirous of avoiding too great a multiplication of species, considered the Primrose, Oxlip and Cowslip, as varieties only of each other; but most botanists have differed from him in this particular. Some have gone so far as to reckon them three distinct species. It seems however most agreeable to nature to consider the first and last as distinct, though much more nearly akin than an inexperienced observer would suppose, and the rim of the corolla being concave in one and flat in the other, is a sufficiently good specific character.

The Oxlip (*P. veris* β of Linn. *Fl. Dan. t.* 434.), if not an hybrid production between the other two, may perhaps with the greatest propriety be reckoned a variety of the Primrose, from which it principally differs in having an elongated common foot-stalk, like the Cowslip; whereas the common foot-stalk of the Primrose is so short as to be concealed among the leaves, as Linnæus and Dr. Stokes have observed. This plant is found every where in woods, thickets, and pastures, flowering in April and May. Its blossoms have an agreeable fragrance.

“The Primrose pale and Violet blue,” being the chief ornaments of a season which every pastoral poet delights to celebrate, have been more frequently honoured in verse than most other wild flowers.



early del. Jan 7. 1791.



Conflicts of interest statement: No conflicts declared.

PRIMULA elatior.

Oxlip.

PENTANDRIA Monogynia.

GEN. CHAR. *Capf.* 1-celled, superior. *Tube* of the *corolla* cylindrical, mouth pervious. *Stigma* globose.

SPEC. CHAR. Leaves dentated, wrinkled. Stalk many-flowered. Border of the corolla flat.

SYN. *Primula elatior.* *With.* 234. *Sibth.* 72. *Symons's Syn.* 53.

P. veris β. *Linn. Sp. Pl.* 204.

P. vulgaris β. *Huds.* 84.

P. inodora. *Relb.* 81.

P. pratensis inodorata lutea. *Raii Syn.* 284.

THE Oxlip, or Greater Cowslip, is much less frequent than the two most common kinds of *Primula* figured in *tab.* 4 and 5 of this work, but nevertheless occurs here and there in woods, thickets, or pastures, flowering in April. We received this specimen from the Rev. Mr. Hemsted, who justly observes that the flowers are by no means inodorous, but have a very grateful smell.

In describing the Primrose, we expressed a suspicion that the Oxlip might be a variety of that rather than of the Cowslip, or possibly an hybrid between the two. We are still much inclined to the latter opinion, and that it has originated from a Primrose impregnated by a Cowslip; its external habit, the contraction towards the middle of the leaf, and the umbellate flower-stalk indicating (according to Linnæus's ingenious idea) the *father*, while the blossom itself, in form, colour and scent, most resembles its *mother*. See *Linn. Diss. on the Sexes of Plants, Lond.* 1786. However this may be, the Oxlip is propagated by seed, which is the case with some other mule plants, as Geraniums. It also increases fast by its perennial root. Haller characterises it as having only the outer flowers nodding, while those of the Cowslip all droop; but the flat limb of the corolla affords a much better mark. The same author calls the umbel a *racemus*, not from ignorance, but he aimed at consequence by using terms different from those generally adopted.



No. 1900. *Primula vernalis* L.

PRIMULA veris.

Common Cowslip.

PENTANDRIA Monogynia.

GEN. CHAR. *Capsule* one-celled, superior. *Tube* of the *corolla* cylindrical, mouth pervious. *Stigma* globose.

SPEC. CHAR. Leaves dentated, wrinkled. Border of the *corolla* concave.

SYN. *Primula veris.* *Huds. Fl. An.* 84. *Linn. Sp. Pl.* 204. *Fl. Dan. t.* 433.

P. officinalis. *Witb. Bot. Arr.* 203.

P. veris major. *Raii Syn.* 284.

IN speaking of the Primrose we have already mentioned its affinity to this plant; one circumstance is however remarkable in the Cowslip, a contraction towards the middle of its leaves, which is not seen in the former. The Cowslip is nearly as common, and flowers at the same time: it prefers a clay soil, and generally an open situation.

Cowslip flowers are fragrant, and make a pleasant wine, approaching in flavour to the Muscadel wines of the South of France.

The leaves of this plant and the Primrose are said to afford nourishment to silk-worms: but those animals are so very delicate, and the quality of their silk is so apt to be injured by the most trifling causes, that they are seldom found worth cultivating as an article of commerce, unless fed with the best and most healthy leaves of the White Mulberry (*Morus alba*). It is however an object worthy of the curiosity of those who breed them for amusement, to try what kinds of food may best be substituted in the place of their natural aliment, when a backward spring retards the growth of the Mulberry leaves.



v



PRIMULA farinosa.

Bird's-Eye Primrose.

PENTANDRIA Monogynia.

GEN. CHAR. *Capful* one-celled, superior. *Tube* of the *corolla* cylindrical, mouth pervious. *Stigma* globose.

SPEC. CHAR. Leaves crenated, smooth. Border of the corolla flat.

SYN. *Primula farinosa*. *Linn. Sp. Pl.* 205. *Huds. Fl. An.* 84. *With. Bot. Arr.* 204. *Fl. Dan. t.* 125.

Verbasculum umbellatum alpinum minus. *Raii Syn.* 285.

WET pastures and little rills on the sides of mountains in the north of England, especially in Westmoreland, are the favourite situations of this elegant plant, nor can our British Flora boast many more beautiful productions. Of late years it has been frequently introduced into gardens. The powdery





Antennaria dioica

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

CYCLAMEN europæum.
Spring Cyclamen, or Sow-bread.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped, reflexed; tube very short; orifice prominent. Berry superior, enclosed in a case.

SPEC. CHAR. Corolla bent backwards. Leaves heart-shaped, angular, finely toothed.

SYN. Cyclamen europæum. *Linn. Sp. Pl.* 207. *With.* 235. *Sym. Syn.* 53.

C. vernum. *Ger. em.* 843.

WILD specimens of the Cyclamen have been sent us by D. E. Davy, Esq. from a bank in the parish of Bramfield, Suffolk, far from any house or garden, where if not originally a native, it is at least perfectly naturalized. The ground is a wet clay soil, sloping towards the south or west, and is overshadowed with trees. Gerarde was told that this plant had been observed in Wales, Lincolnshire, and Somersetshire; but no one has confirmed that report. It is perennial, flowering in April, and in a cultivated state sometimes in autumn.

Root a large roundish knob, throwing out several branched fibres. Leaves all radical, on long foot-stalks, heart-shaped, roundish or oblong, acute, waved, and angular, finely crenate or toothed, veiny, smooth; stained above with white radiated or sinuated spots; purplish beneath. Foot-stalks round, zig-zag, slender at the base. Flower-stalks like them, but longer, simple, naked. Flowers drooping, white, purplish about the mouth, their segments upright, twisted. Stamina very short, not projecting. Antheræ awl-shaped, tawny. Germen superior, roundish. Style awl-shaped. Stigma acute. After impregnation the stalks curl in a close spiral manner, and bury the ripening fruit in the earth.

This pretty plant is easily cultivated in a shady border, and its leaves, which are in their greatest beauty in autumn, are scarcely less ornamental than the flowers. The root is very purgative, and has a nauseous bitter acrid taste, not at first perceived, but very durable. Gerarde believed that merely stepping over this herb caused abortion, and very prudently guarded it in his garden with sticks.



1



MENYANTHES trifoliata.

*Common Buckbean.**PENTANDRIA Monogynia.*

CHAR. Corolla hairy. Stigma cloven. Capsule
1 cell.

CHAR. Leaves ternate.

N. Menyantes *ta.* Linn. *Sp. Pl.* 208.
Hulf. 85. Relb. 82. Sibb. 73.
Curt. *Lond. fasc.* 4. 17.

M. palustre triphyllum latifolium et angustifolium.
Raii *Syn.* 285.

OUR aquatic plants, which principally vie with
the most favoured exotics, in beauty, and this is one of the most
elegant of them. It is very frequent in watery places, in a
black boggy soil, and flowers in June or July.

Root perennial, long, round, throwing out many fibres deep
into the mud. Stem spreading, clothed with the sheathing
foot-stalks, each of which bears three obovate smooth bluntly-
toothed or waved leaflets. Flower-stalk opposite to a leaf, but
springing from within its sheath, longer than the leaves, erect,
round, smooth, bearing a simple thyrsus of about 10 or 15
flowers, accompanied by small ovate entire bractæ. Calyx
with 5 blunt teeth. Corolla of one funnel-shaped petal, deeply
divided into 5 lanceolate acute segments, which are white
tipped with red, and clothed with long fleshy shaggy fibres on
their upper side. This constitutes the proper character of the
genus, though in some species the hairiness is confined to the
edges, in others upon both parts, see t. 217. Antheræ sagittate.
Germen round. Stigma cloven and notched.

This herb is very bitter. An infusion of it was long ago
recommended for the rheumatism, and has been a popular
medicine in England. It has also been given for the gout,
fever, ague, catarrh, and dropsy, a formidable list of dis-
orders: if it has any right to such celebrity, it must act as a
powerful tonic.

495.



MENYANTHES nymphoides.

*Fringed Buckbean.**PENTANDRIA Monogynia.*

GEN. CHAR. *Corolla* hairy. *Stigma* cloven. *Caps.* of
1 cell.

SPEC. CHAR. Leaves heart-shaped, entire, waved.
Corolla ciliated.

SYN. *Menyanthes nymphoides*. *Linn. Sp. Pl.* 207.
Huds. Fl. An. 85. *Witb. Bot. Arr.* 206. *Relb.*
Cant. 82. *Sibth. Oxon.* 73.

Nymphæa lutea minor flore fimbriato. Raii Syn. 368.

Limnanthemum peltatum. Gmelin in Aët. Petrop.
anno 1769, v. 14. p. 527. t. 17. f. 2. è MSS. Linn.

Waldschmidia nymphoides. Wiggers Flo. Holsat. 20.

THIS beautiful aquatic is found occasionally in the Thames,
chiefly in little recesses of its shores out of the great stream;
Lord Lewisham communicated it from near Walton bridge.





HOTTONIA palustris.
Water Violet or Featherfoil.

PENTANDRIA Monogynia.

GEN. CHAR. Corolla salver-shaped. Stamina standing on the margin of the tube. Capsule with 1 cell.

SPEC. CHAR. Stalk bearing many flowers in whorls.

SYN. Hottonia palustris. Linn. Sp. Pl. 208. Hudt.

Fl. An. 85. With. Bot. Arr. 207. Relh. Cant. 83.

Sibth. Ox. 73. Curt. Lond. fasc. 1. t. 11. Dick.

H. Sicc. fasc. 7. 7.

Hottonia. Raii Syn. 285.

CLEAR ditches and ponds on a gravelly soil, in various parts of England, are frequently adorned with the beautiful *Hottonia*, which may vie with many of the most admired exotics in elegance, having indeed, like some other European aquatics, very much the air of a tropical plant. Its English name, Water Violet, is far from apt, even though we understand it as contrasting this plant with the Dame's Violet, or *Hesperis*, to which its resemblance is slight, and its affinity none, for it belongs to the same natural order as the Primrose and Pimpernel.

The white fibrous radicles run deep into the ground, and from the crown of the perennial root spring several leaves in a star-like form, and a few long runners, which are leafy and take root at their extremities, flowering the next year. The leaves are smooth, bright-green, elegantly and deeply pinnatifid, or pectinated, their segments linear and entire, varying in breadth, acute. All these parts are constantly under water. The stalk alone rises above the surface to the height of 8 or 10 inches, being solitary, erect, round, naked, smooth below, roughish above, and bearing 5 or 6 whorls, each of 5 to 10 pedunculated flowers, with an oblong bractea at the base of each flower-stalk. The flowers are not unlike those of a *Primula*. They are naturally 5-cleft, but may be found with 6 or 7 segments, and as many stamina. Their colour is pale purple, with a yellow tube and orifice. Capsule globular, with many seeds standing on a large globose receptacle. Stigma concave. It flowers in June.

Boerhaave named this genus in honour of his predecessor in the Leyden Professorship, Peter Hotton, of whose character and abilities he speaks with great respect in his Index to the Leyden Garden.



LYSIMACHIA vulgaris.

*Yellow Loosestrife.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* wheel-shaped. *Caps.* globose, pointed, with 10 valves.

SPEC. CHAR. Panicked. Clusters terminal. Leaves ovato-lanceolate, acute.

SYN. *Lysimachia vulgaris.* *Linn. Sp. Pl.* 209. *Sm. Fl. Brit.* 227. *Huds.* 86. *Witb.* 237. *Hull.* 49. *Relb.* 84. *Sibth.* 74. *Abbot.* 45. *Curt. Lond. fasc.* 5. t. 19.

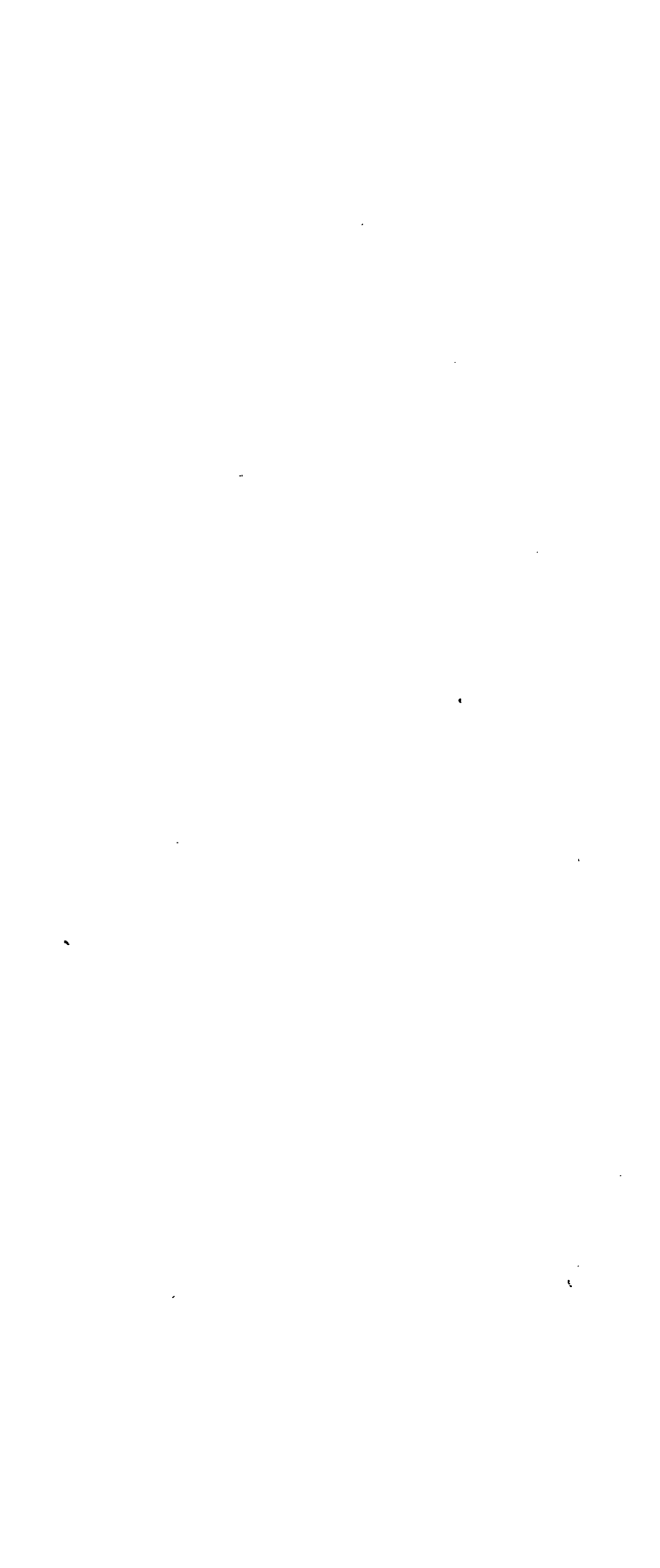
L. lutea. *Raii Syn.* 282.

AN elegant ornament of watery shady places, and the reedy banks of rivers, where it intermingles with the Common Valerian, the *Eupatorium*, the *Lytbrum Salicaria*, &c. but is much less common than any of them. It flowers in July, and, having a perennial creeping root, may be easily propagated in a garden, even where the soil is not very wet. . In a moist one it would soon become a troublesome weed.

The stems rise to the height of 3 feet or more, and are straight.

761





[176]

LYSIMACHIA thyrsiflora.

*Tufted Looseftrife.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* wheel-shaped. *Capſule* globoſe, pointed, with 10 valves.

SPEC. CHAR. Flowers in lateral pedunculated cluſters.

SYN. *Lyſimachia thyrsiflora.* *Linn. Sp. Pl.* 209. *Hudſ.*

Fl. An. 86. *Witb. Bot. Arr.* 209.

L. lutea, flore globoſo. *Raii Syn.* 283.

DESPAIRING of procuring recent wild ſpecimens of this very rare plant, we cannot refrain from exhibiting a figure of a cultivated one, which has been compared with wild ones, and found in no reſpect to differ. It grows in boggy places, about running ſtreams, and was found in Ray's time in the Eaſt Riding of Yorkſhire, as well as about King's Langley in Hertfordſhire. Dr. Smith ſaw, in the year 1781, ſpecimens gathered by Dr. White in a bog near Severus's hills at York; but the plant was then loſt, from the place having been drained, ſo that we really do not know a certain ſtation of this *Lyſimachia* at preſent.



[X86]

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44. AUTOMATICALLY TO THE FUTURE

LYSIMACHIA nemorum.

Yellow Pimpernel, or Wood Loosestrife.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped. Caps. globose, pointed, with 10 valves.

SPEC. CHAR. Leaves ovate, acute. Flowers solitary. Stem procumbent. Stamina smooth.

SYN. *Lyfimachia nemorum.* Linn. *Sp. Pl.* 211.
Huds. 86. *With.* 237. *Relb. Suppl.* 3. 1.
Sibth. 74. *Curt. Lond. fasc.* 5. t. 18.

Anagallis lutea. Raii *Syn.* 282.

THE pretty yellow Pimpernel of the Woods is a great ornament to moist shady groves, flowering from the end of May till September, though in the greatest perfection and brilliancy about Midsummer. As the season advances, its long trailing branches hang elegantly over broken ground or mossy rocks, among little trickling rills, while its neat shining myrtle-like leaves are intermixed and entangled with tufted *Hypnum* or the smaller kinds of fern.

The roots are perennial. Stems procumbent or pendent, taking root from some of the lower joints, branched, square, red and pellucid, leafy. Leaves opposite, on footstalks, ovate, entire, veiny, rather succulent. Every part of the herb is smooth. Flowers on long, slender, solitary, axillary, simple, often twisted, stalks. Calyx in 5 equal awl-shaped segments. Corolla spreading, divided about half way to the base, or farther, into 5 lobes. Filaments smooth, shorter than the corolla. Style a little club-shaped, with a simple blunt stigma. Capsule superior, globose, of 1 cell, bursting into 10 valves, which often stick together in pairs or irregularly in this as in other species. Seeds several, roundish.



Gentiana verna L.

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LYSIMACHIA Nummularia.

Moneywort, or Creeping Looselife.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* wheel-shaped. *Caps.* globose, pointed, with 10 valves.

SPEC. CHAR. Leaves somewhat heart-shaped. Flowers solitary. Stem creeping. Stamina glandular.

SYN. *Lysimachia Nummularia.* *Linn. Sp. Pl.* 211. *Huds.* 87. *With.* 238. *Relb.* 84. *Sibth.* 74. *Curt. Lond. fasc.* 3. *t.* 14. *Dicks. H. Sic. fasc.* 12. 10.

Nummularia. *Raii Syn.* 283.

MONEYWORT, or Herb Twopence as it was formerly called, inhabits similar places with the preceding species, or rather the banks of wet ditches, creeping over the black boggy soil of very moist meadows, or on the margins of shady rivulets, flowering copiously in June and July. Root perennial. Stems several, perfectly prostrate and creeping, quadrangular but compressed, mostly simple. Leaves much rounder, paler, and more undulated than in the last. Segments of the calyx ovate, pointed. Corolla pale lemon-coloured, divided almost to the base; when magnified it is found to be clothed with small glands standing on footstalks, as are also the stamina. The antheræ are arrow-shaped. The stigma blunt, notched. The capsule is seldom perfected, nor are we able to figure it any more than Mr. Curtis.

The qualities of these two species of *Lysimachia*, either in medicine or for agricultural purposes, are, we believe, altogether unimportant. Their taste is herbaceous, with a little unpleasant pungency or astringency.



ANAGALLIS arvensis.

Scarlet Pimpernel.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* wheel-shaped. *Capsf.* bursting all round. *Stamina* hairy.

SPEC. CHAR. Leaves ovate, dotted beneath. Stem procumbent.

SYN. *Anagallis arvensis.* *Linn. Sp. Pl.* 211. *Huds.* 87. *Witb.* 238. *Relb.* 85. *Sibth.* 74. *Curt. Lond. fasc.* 1. t. 12. *Dicks. H. Sicc. fasc.* 12. 11.

A. flore phœniceo. *Raii Syn.* 282.

A COMMON weed on sandy or gravelly soils in all kinds of cultivated land, flowering all summer long; yet, as Dr. Withering observes, "every part of it is singularly beautiful, and will amply repay the trouble of a minute examination."

Root small, annual. Stem procumbent, much branched at the bottom, square, smooth, leafy. Leaves opposite, rarely in fours, sessile, ovate, entire, smooth, with one rib and several longitudinal veins, dotted all over the under side with purple. Flowers axillary, solitary, on stalks longer than the leaves. Calyx-leaves lanceolate, with a membranous edge, very sharp-pointed. Corolla in 5 deep-cut roundish segments, minutely crenate or somewhat fringed, of a vivid scarlet with purple at the base. Stamina purple, fringed with hairs of the same colour. Antheræ heart-shaped, yellow. Stigma blunt, notched. Capsule globose, greenish, semitransparent, bursting in two equal hemispheres. Seeds many, angular, thickly crowded into a globe.

The blue Pimpernel is supposed to be a permanent variety of this. We have as yet found no specific difference. Ray mentions a white one.

This pretty flower opens only in fine weather, and infallibly closes against rain; hence it is called the poor man's weather-glass, and it is one of the most certain that can be consulted, as we have often experienced.



201 1748 *Convolvulus* *Convolvulus*

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96.
[1823]

ANAGALLIS *cærulea*.
Blue Pimpernel.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* wheel-shaped. *Caps.* bursting all round. *Stamina* hairy.

SPEC. CHAR. Leaves ovate inclining to lanceolate, dotted beneath. Stem upright. Corolla strongly crenate.

SYN. *Anagallis cærulea*. *Abbot*. 46.

A. arvensis. *Sm. Fl. Brit.* 230, γ . *Huds.* 87, β .
With. 238, 2. *Hull.* 49, 2. *Relh.* 84, β . *Sibth.* 75, β .

A. foemina. *Raii Syn.* 282.

WE are induced to publish this plant on account of its beauty and rarity, and even to allow it the rank of a species at the persuasion of the Rev. G. R. Leathes, added to the authority of Dr. Abbot and several other botanists. Mr. Leathes sent our specimens, along with the much rarer white-flowered variety of *A. arvensis*, from fields at Great Saxam, Suffolk. He remarks that "the stem of the *cærulea* is invariably erect, leaves narrower than in *A. arvensis*, *t.* 529, the corolla much smaller, and more deeply crenate." Our *t.* 529 incorrectly shows this part fringed rather than crenate. Haller notices some of these marks, and adds as a more material one that the calyx-leaves are awl-shaped, which we cannot find more remarkable in this than the other, and Haller has omitted this species (which is *n.* 626 of his great work) in his *Nomenclator*, as if he doubted its permanency, though such an omission may have arisen from accident.

A. cærulea flowers in July, about the same time as the scarlet kind. We have received it from North Luffenham, near Stamford, by favour of G. Ainslie, Esq., and from various other places. The root is annual. *A. Monelli* is very distinct from this, being perennial, with broad leaves, very long flower-stalks, large scarcely crenate flowers, and much more awl-shaped calyx-leaves. Perhaps Haller had examined this species in a garden, and confounded it with ours.

1823



Primula pubescens, Publ. del. du J. G. de C. de C. de C. de C. de C.



ANAGALLIS tenella.

Bog Pimpernel.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* wheel-shaped. *Capsf.* bursting all round. *Stamina* hairy.

SPEC. CHAR. Leaves roundish, somewhat pointed, on foot-stalks. Stem creeping. Stigma acute.

SYN. *Anagallis tenella.* *Linn. Syst. Veg. ed. 14.* 196. *With.* 239. *Relb.* 86. *Sibth.* 75. *Curt. Lond. fasc.* 3. t. 15.

Lyfimachia tenella. *Linn. Sp. Pl.* 211. *Huds.* 87. *Dicks. H. Sicc. fasc.* 2. 12.

Nummularia minor, flore purpurascente. *Raii Syn.* 283.

THIS most elegant little plant was sent us from Staffordshire by the Rev. T. Gisborne. It is not unfrequent on wet bogs throughout these kingdoms, flowering in July and August.

Root perennial. Stems spreading in every direction close to the ground, and taking root as they advance; they are slender, angular, smooth, clothed with opposite, small, roundish, or ovate, entire, smooth leaves, on shortish foot-stalks. Flowers erect, on very long, axillary, solitary stalks. Calyx-leaves lanceolate, acute. Corolla of an elegant rose-colour, deeply divided, but with a tubular base, so as to be rather funnel-shaped. Stamina clothed with numerous, curiously jointed, hairs. Antheræ roundish. Style long, tapering into a simple acute stigma. Capsule cut round, not often perfected. Linnæus had not seen the fruit when, in his *Species Plantarum*, he reduced this plant to the genus *Lyfimachia*, with which it agrees indeed in habit, but the stamina, capsule and seeds are those of an *Anagallis*. It bears a very considerable affinity to the *Centunculus*, but the stamina of that are smooth.



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[865]

A Z A L E A procumbens.
Trailing Azalea.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. bell-shaped. Stamina regular, inserted into the receptacle. Caps. superior, 5-celled.

SPEC. CHAR. Branches spreading and procumbent. Leaves opposite, revolute, very smooth.

SYN. Azalea procumbens. Linn. Sp. Pl. 215. Sm. Fl. Brit. 231. Hudf. 88. With. 239. Hull. 50. Lightf. 139. Dickf. H. Sicc. fasc. 12. 12.

THE heathy summits of all the highland mountains of Scotland are clothed with a profusion of this elegant little shrub. We are not certain whether it was first observed by the Rev. Mr. Stuart of Luss, or by any of Dr. Hope's travelling pupils, whose labours so eminently contributed to enrich the *Flora Scotica*. Our specimens were gathered by Mr. Mackay and Mr. G. Don.

The roots are woody, branched and creeping, running deep into the black moory soil among the fissures of rocks. Stems also much branched, procumbent, buried in moss, intricate and



Thymus serpyllifolius L.



CONVOLVULUS arvensis.

Small Bind-weed.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. bell-shaped, plaited. Stigmas 2.
Capsule with 2 cells, and 2 seeds in each.

SPEC. CHAR. Leaves arrow-shaped, the lobes acute.
Flowers generally solitary. Bractææ minute, remote from the flower.

SYN. Convolvulus arvensis. Linn. Sp. Pl. 218. Hudf.
Fl. An. 88. Witb. Bot. Arr. 212. Relb. Cant.
86. Sibth. Ox. 76. Curt. Lond. Fasc. 2. t. 13.
C. minor vulgaris. Raii Syn. 275.

BUT too common for the farmer and gardener in fields and all kinds of cultivated land, especially in a gravelly soil, flowering copiously from May to the end of July.

The root is perennial, running so very deep into the ground, and growing so fast, that it is next to impossible to destroy it. Stems very numerous, long, climbing and twining round every thing in their way, angular, slightly downy, not much branched except at the very bottom, clothed with alternate arrow-shaped leaves on downy footstalks; the leaves are very various in breadth, entire, except one tooth sometimes near the base, and a little downy. Stipulæ none. Flowers from the bosom of each leaf, solitary, on long (generally undivided) angular stalks swelling upwards, with a pair of minute bractææ about their middle, which are downy, narrow, rather lanceolate than subulate, and sometimes even obovate. Flowers very beautiful, rose-coloured, varying with lighter or deeper shades and lines of crimson, the plaits yellowish. They generally close before rain; in dry warm weather they have a very sweet almond-like smell. Calyx with a membranous edge, the leaves obtuse, lying over each other. Antheræ red or white. Style not very long; stigmas nearly equal to it in length, linear, distant. The seeds happily are rarely perfected.

There is a singular variety mentioned by Ray, with a smaller flower, deeply divided into 5 segments, and of a darker red than the common kind. Dr. Smith has observed this in a hedge out of St. Giles's gates, Norwich.



March 7 1848 Philadelphia J. H. Knapik London

CONVOLVULUS sepium.

Great Bind-weed.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* bell-shaped, plaited. *Stigmas* 2.
Capsule with 2 cells, and 2 seeds in each.

SPEC. CHAR. Leaves arrow-shaped, the posterior lobes lopped. Flower-stalks square, single-flowered. Bractææ heart-shaped, close to the flower.

SYN. *Convolvulus sepium.* *Linn. Sp. Pl.* 218. *Huds. Fl. An.* 88. *With. Bot. Arr.* 213. *Relh. Cant.* 87. *Sibth. Ox.* 76. *Curt. Lond. fasc.* 1. t. 13.
C. major. *Raii Syn.* 275.

THIS, one of the most elegant and graceful of all our wild flowers, is equally common with the preceding species, though its place of growth be different. It inhabits moist hedges, twining about willows and reeds, and decorating them with its very conspicuous flowers throughout July and August.

The roots are long, creeping, and perennial, a little fleshy. Stems very long, twining, somewhat angular, smooth, not much branched. Leaves alternate, on smooth footstalks about half their own length, dependent, smooth, of a swelling arrow-shape, with the angles at the base abruptly cut off. Stipule none. Flowers solitary, on axillary, undivided, square, curved stalks, with a pair of heart-shaped, red-bordered bractææ, close to the flower and enfolding the proper calyx, which is smaller, of 5 lanceolate leaves. Corolla generally white, but sometimes (as Dillenius observes in Ray's Synopsis) of an uniform flesh or rose-colour. Antheræ cream-coloured. Stigmas short and thick. Seeds scarcely ever perfected.

An extract of the herb is said to be a violent purge, like
mony.



April 1790 Published by J. B. Smith & Co.

CONVOLVULUS Soldanella.

*Sea Bind-weed.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* bell-shaped, plaited. *Stigmas* 2.
Capsule with 2 cells, and 2 seeds in each.

SPEC. CHAR. Leaves kidney-shaped. Flower-stalks
 single-flowered, with membranous angles.

SYN. *Convolvulus Soldanella.* *Linn. Sp. Pl.* 226.
Huds. Fl. An. 89. *With. Bot. Arr.* 214.

C. maritimus, *Soldanella dictus.* *Raii Syn.* 276.

A NATIVE of our sandy sea shores, as at Yarmouth, Lowestoft, &c. The Rev. Mr. Baker and A. B. Lambert, Esq. sent it from Weymouth. The beautiful flowers may be found in July, not much later; they expand only in fine weather and in the early part of the day.

Root long, creeping, perennial. Stems procumbent, spreading in a circular form, 5 or 6 inches long, but little branched, angular, purplish. Leaves on longish foot-stalks, small, dark green, heart- or kidney-shaped, entire, sometimes a little angular. The whole herb is smooth and succulent. Flowers few and large, axillary, solitary, on long flower-stalks thickened upwards, and with 3 or 4 dilated membranous angles. Bractee large, ovate, close to the flower. Calyx-leaves large, ovate. Corolla with five acute angles, rose-coloured, the plaits yellowish. Antheræ yellow. Stigmas small and sharp. Capsule four-lobed.



April 1796 Published by J. Kewerby London



POLEMONIUM cæruleum.

*Jacob's Ladder.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* in five segments. *Stamina* standing on five valves which close the tube. *Stigma* three-cleft. *Capsule* three-celled, superior.

SPEC. CHAR. Leaves pinnated. Flowers erect. Calyx longer than the tube of the corolla.

SYN. *Polemonium cæruleum.* *Linn. Sp. Pl.* 230. *Huds. Fl. An.* 89. *Witb. Bot. Arr.* 215.

P. vulgare cæruleum. *Raii Syn.* 288.

THIS, although very common in gardens, is one of the plants most rarely found wild in this country. Botanists of the last century gathered it in the romantic and mountainous country about Malham Cove, in the north of Yorkshire, where it still grows, as well as in some parts of Derbyshire (*Withering*).

A variety with white flowers is very common, sometimes even from the same root as the blue ones (*Linnaeus*); the faint purplish blue seen in the flowers of this plant, being that which of all colours is most apt to vary to white.

Its stems rise to the height of eighteen or twenty inches, seldom more. The root is fibrous and perennial.

This plant is absurdly enough reckoned among the *Valerians* by the old authors, with which it has not the least affinity either in appearance, botanical characters, sensible qualities, or medical virtues.



Palmaria del. April 1. 1844



CAMPANULA rotundifolia.
Round-leaved Bell-flower.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. bell-shaped, closed at the bottom by valves bearing the stamina. Stigma 3-cleft. Capsule inferior, opening by lateral pores.

SPEC. CHAR. Radical leaves kidney-shaped; upper ones linear.

SYN. Campanula rotundifolia. Linn. Sp. Pl. 232. Sm. Fl. Brit. 235. Hudf. 95. With. 241. Hull. 52. Relb. 93. Sibth. 80. Abbot. 48. Curt. Lond. fasc. 4. t. 21. Raii Syn. 277.

YOUNG botanists are not unfrequently puzzled with the name of this *Campanula*, if they find it (as is frequently the case) with only the linear leaves remaining; and indeed when it grows on a rich soil among bushes, the round leaves soon disappear, and a profusion of long narrow ones only clothes the stem. It however teaches an useful lesson, that we ought never to decide upon Nature's works from ill-chosen or solitary specimens, or hasty observations.

It is one of our prettiest wild flowers, found every where on heaths, mouldering walls, and bushy borders of fields, flowering from July to the end of the season. The root is branched and perennial. Herbage smooth, dark green. Stems upright, branched. Lower leaves on long footstalks, kidney or heart-shaped, ferrated; those above them ovate or oblong; the rest linear, sessile, mostly entire. Flower-stalks panicled, slender, bracteated. Flowers drooping, quivering to every breeze, sky-blue, rarely white. Teeth of the calyx entire, spreading; in the alpine variety erect, but we can scarcely find that or any other mark hitherto observed sufficient to constitute it a different species.

We suspect poets sometimes take this for the hare-bell. We have somewhere read of

"The trembling rye-grass and the hare-bell blue"

growing on "mouldering turrets," which could scarcely be the al hare-bell, (see our t. 377); and probably the supposed rye-grass might rather be *Bromus sterilis*.



Campanula medium (Bellflower)

CAMPANULA patula.

*Spreading Bell-flower.**PENTANDRIA Monogynia.*

GEN. CHAR. *Corolla* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* three-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Leaves straight; the radical ones nearly oval. Panicle spreading. Calyx denticulated.

SYN. *Campanula patula*. *Linn. Sp. Pl.* 232. *Hed. Fl. An.* 95. *With. Bot. Arr.* 216.

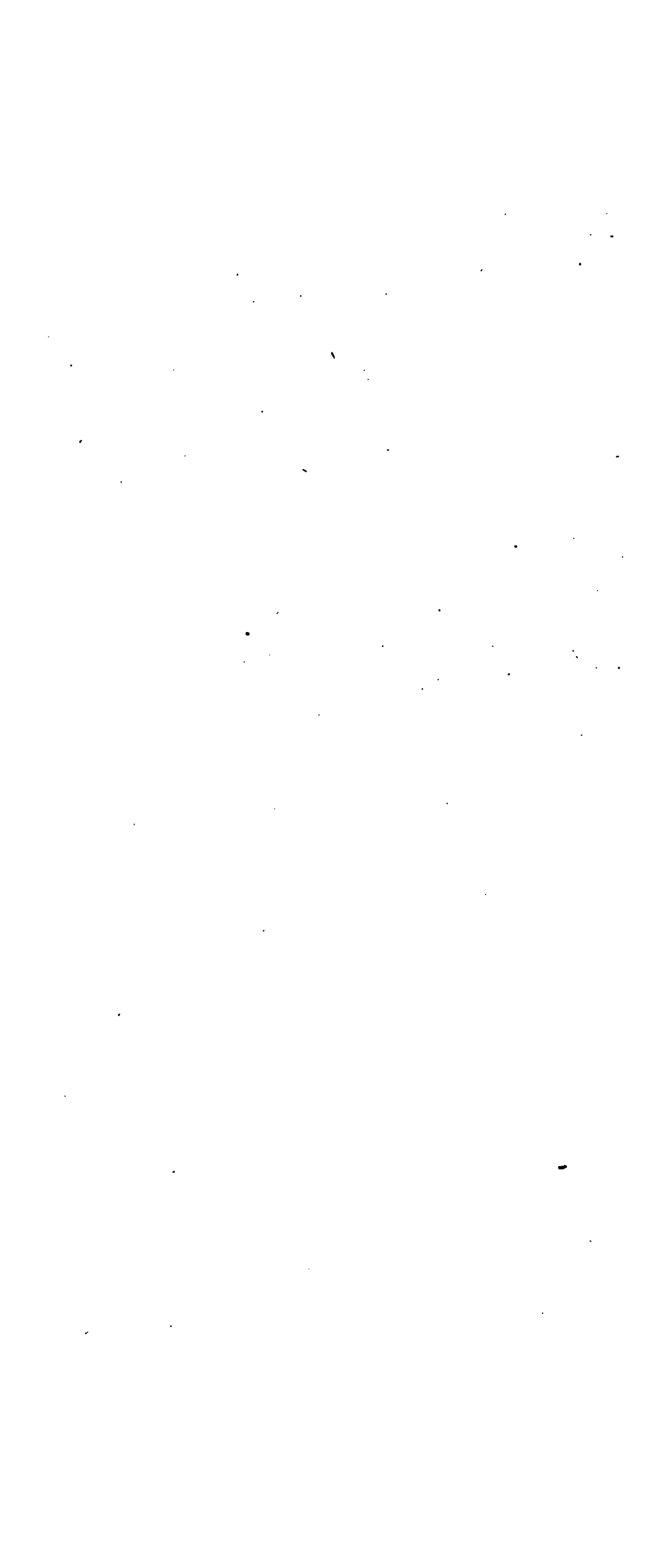
ONE of the rarest English plants, gathered at Cobham in Surry, in the park of the late Lord Ligonier, by Dr. Smith. Mr. Woodward found it in the borders of Buddon wood, Leicestershire; not in the wood itself, as has been commonly reported.

The root is biennial, slender, and white. Radical leaves growing many together, spreading, small, roundish, or oval,





Gentiana verna L. Kuntz. 1794



CAMPANULA Rapunculus.

*Rampion Bell-flower.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* 3-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Leaves undulated; the radical ones lanceolate inclining to oval. Panicle compact.

SYN. *Campanula Rapunculus.* *Linn. Sp. Pl.* 232.

Huds. Fl. An. 95. *With. Bot. Arr.* 217.

Rapunculus esculentus. *Raii Syn.* 277.

A NATIVE of banks and borders of fields in some parts of England, more particularly Surrey and Kent. It is an old kitchen-garden vegetable, the root having been formerly eaten either raw in sallads or boiled. When recent it is the size and shape of a radish, but white, milky, sweetish with some pungency and bitterness. It is now out of use:

Root biennial. Stem erect, angular, rough (especially on the angles) with deflexed white hairs, the upper part being less rough, paniced and sometimes branched. Leaves roughish, undulated and toothed; the lowest somewhat elliptical, the others lanceolate; the floral leaves very narrow. Panicle compact, upright, its side branches bearing from one to three or more flowers. Germen in our specimen smooth, in those of *Linnaeus* hairy, the hairs often inflated and becoming globular; teeth of the calyx very long and taper, generally entire, but sometimes bearing one small tooth on each side near the base, though they are by no means so denticulated as in *C. patula* (tab. 42), neither is the corolla taper at the base, as in that species, but inflated.

ers appear in July and August.



Thalictrum flavum L.



CAMPANULA latifolia.
Giant Bell-flower.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. bell-shaped, closed at the bottom by valves bearing the stamina. Stigma 3-cleft. Caps. inferior, opening by lateral pores.

SPEC. CHAR. Leaves ovato-lanceolate. Stem unbranched, round. Flowers solitary, pedunculated. Fruit drooping.

SYN. Campanula latifolia. Linn. Sp. Pl. 233. Huds. Fl. An. 96. With. Bot. Arr. 218. Relh. Cant. Suppl. 2. 10. Lightf. Scot. 141.

C. maxima foliis latissimis. Raii Syn. 276.

IN the north of England, and in Scotland according to Mr. Lightfoot, this species of *Campanula* is not unfrequent, though rare in the southern counties. It grows in shady moist places, about the bases of mountains. Mr. Rose observed it in Forehoe wood near Kimberley, Norfolk. Our wild specimen grew near Dunstable, where it was first remarked and ascertained by our obliging correspondent the Rev. Mr. Abbot, for many botanists overlook this plant for *C. Trachelium*.

Root perennial, very milky as well as the whole herb. Stem 3 or 4 feet high, erect, simple, cylindrical or very slightly angular, leafy. Leaves alternate, nearly sessile, large, roughish, paler beneath, doubly serrated. From the bosoms of the upper ones arise solitary naked flower-stalks, scarcely ever bearing more than one flower; we have not found the pair of "leaf-scales," or rather bractæ, mentioned in the Bot. Arr. Calyx smooth, serrated. Corolla large and handsome. The antheræ are not large, but afford plenty of pollen, which copiously adheres to the style.

This is sometimes cultivated in gardens. It flowers in August, and is rather ornamental; occasionally varying to white or pale rose-colour.



CAMPANULA rapunculoides.

Creeping Bell-flower.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* 3-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Leaves heart-shaped; the uppermost lanceolate. Stem branched. Flowers scattered, drooping towards one side. Calyx reflexed.

SYN. *Campanula rapunculoides.* *Linn. Sp. Pl.* 234. *Sm. Fl. Brit.* 237.

C. repens, flore minore cæruleo. *Bauh. Hist.* v. 2. 806.

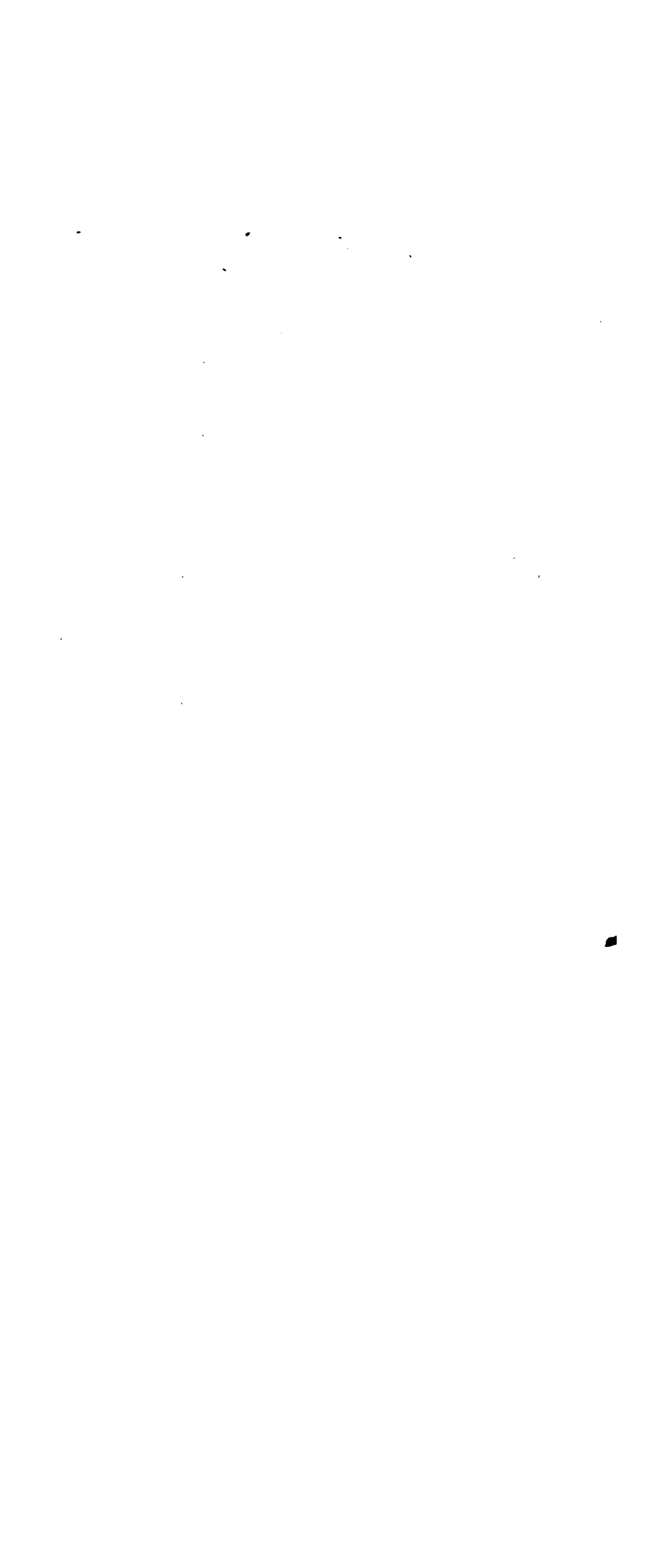
C. hortensis, *Rapunculi radice repente.* *Moris. Hist.* v. 2. 460. *sect. 5. t. 3. f. 32.*

IN the herbarium of Buddle, preserved in the British Museum, are specimens of this *Campanula* said to have been gathered in some woods in Oxfordshire, among yew trees. Dr. Skrimshire having found the same at Blair in Scotland, apparently wild, confirms it to us as a British plant. It may in other places have been overlooked as *C. Trachelium*, though essentially different in many respects. We have delineated a garden specimen, not having seen a recent wild one.

This plant flowers in July and August, and is perennial, increasing considerably by its creeping roots. The radical leaves much resemble those of violets, and are heart-shaped, crenate, roughish, on long footstalks. The lower stem-leaves are narrower, and have shorter stalks; the upper grow gradually more lanceolate and sessile. The stem is about a foot high, more or less branched, angular, rough with deflexed hairs. Flowers pendulous, on short simple solitary stalks, from the bosoms of the small upper leaves. Calyx rough; its segments reflexed, entire. Corolla of a deep blue, hairy, mostly larger than that of *C. Rapunculus*, *t. 283.*



Campanula latifolia L. f. *latifolia* L. f. *latifolia* L. f.



CAMPANULA glomerata.

*Clustered Bell-flower.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* three-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Stem angular, simple. Flowers sessile, most of them in a terminal cluster. Leaves ovate.

SYN. *Campanula glomerata.* Linn. *Sp. Pl.* 235. Hudf. *Fl. An.* 96. *Witb. Bot. Arr.* 219. *Relb. Cant.* 94.

C. pratensis, flore conglomerato. *Raii Syn.* 277.

A NATIVE of dry chalky pastures, as Gogmagog hills, Newmarket heath, the neighbourhood of Marham in Norfolk, Bury in Suffolk, and various parts of Yorkshire, Surrey, and other chalk countries, which its conspicuous flowers adorn very copiously in the months of July and August.

The stem is never (we believe) branched, unless it happens to have been eaten off by cattle when young; it is erect, angular, hairy, from six to eighteen inches high. Leaves rough, pale but not hoary, beneath; the calyx, and even corolla, are sometimes hairy, and the latter occasionally varies from purple to white. Root perennial, with long fibres.

This plant is no contemptible ornament for rock-work, or flower-borders in dry ground, where little else will grow. A moist or rich soil makes the herb too luxuriant, the flowers pale and degenerate, taking away its alpine habit.



CAMPANULA Trachelium.

*Nettle-leaved Bell-flower.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* three-cleft.

Capful inferior, opening by lateral pores.

SPEC. CHAR. Stem angular. Leaves on foot-stalks.

Calyx fringed. Flower-stalks three-cleft.

SYN. Campanula Trachelium. *Linn. Sp. Pl.* 235. *Hadj.*

Fl. An. 96. *Witb. Bot. Arr.* 218. *Relb. Cantab.*

94.

Campanula vulgatiore foliis Urticæ, vel major et asperior. *Raii Syn.* 276.







CAMPANULA hybrida.

*Corn Bell-flower.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* 3-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Stem often branched from the base. Leaves oblong, crenate and undulated. Corolla rotate, shorter than the calyx. Capsule prismatic.

SYN. *Campanula hybrida.* *Linn. Sp. Pl.* 239. *Hud. Fl. An.* 97. *With. Bot. Arr.* 219. *Relh. Cant.* 95. *Sibth. Ox.* 81.

C. arvensis erecta, vel *Speculum Veneris minus Raii Syn.* 278.

SENT by the Rev. Mr. Hemsted from Cambridgeshire. It is found also in Norfolk and Suffolk, in corn-fields on a chalky soil, but by no means frequently, flowering towards autumn.

Root small, fibrous and annual. Stem nearly erect, with a tendency to branch more or less at the base, as well as in the



CAMPANULA hederacea.

Ivy-leaved Bell-flower.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* bell-shaped, closed at the bottom by valves bearing the stamina. *Stigma* three-cleft. *Capsule* inferior, opening by lateral pores.

SPEC. CHAR. Leaves heart-shaped, five-lobed, on footstalks, smooth. Stem flaccid.

SYN. *Campanula hederacea*, Linn. *Sp. Pl.* 240. *Huds. Fl. An.* 97. *Witb. Bot. Arr.* 220. *Dickf. Dried Plants*, 56.

C. Cymbalariae foliis. *Raii Syn.* 277.

FEW plants exceed this *Campanula* in elegance, and yet it has never had the fortune to be well figured. The old authors represent its corolla very erroneously, and *Flo. Dan.* t. 336, is one of the worst figures in every respect that can be. Our specimens were collected on a bog near High-beech, Epping Forest, by Mr. Edward Forster, junior. This species was never before found so near London, though not rare in moist woods in the midland and southern counties, and very plentiful in Cornwall, from whence Francis Borone brought it to Mr. Dickson for his *Fasciculi of Dried Plants*. Though a bog plant, it is capable of cultivation, and is almost naturalized under a magnificent shrubbery of *Kalmias* in Kew garden. It flowers throughout the summer.

Its roots are perennial, fibrous, and slender, sprouting from various parts of the procumbent stems, which are matted together, and spread very far. The whole herb is pale, tender, and delicate, smooth, except a very few scattered hairs occasionally found on some of the leaves. Flowers solitary, on long terminal footstalks, a little drooping, fugacious, and soon withering after they are gathered. Segments of the calyx pointed and entire.

Linnaeus's suspicion of this being a hybrid plant (*Am. Acad.* v. 3. 55) is unwarrantable. He supposes it may have been produced from some *Campanula* impregnated by *Veronica hederifolia*, and gives for reason that its leaves are quite foreign to those of others of its genus; yet surely they much more resemble the radical leaves of *C. rotundifolia* than those of this *Veronica*.



PHYTEUMA orbicularis.

Round-headed Rampon.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* wheel-shaped, in five linear segments. *Stigma* three-cleft. *Capsule* three-celled.

SPEC. CHAR. Flowers in a roundish head. Leaves serrated; the radical ones heart-shaped.

SYN. *Phyteuma orbicularis.* Linn. *Sp. Pl.* 241.
Huds. Fl. An. 97. *With. Bot. Arr.* 220.

Rapunculus corniculatus montanus. Rati *Syn.* 278.

WE are obliged to Thomas Cornwall, Esq. of Chalk Park Surrey for this specimen, gathered wild in that county, in several parts of which, as well as in Suffex and Hampshire, this rare plant is found abundantly on a chalky soil, and flowers about July or August. It is one of our more elegant and singularly constructed productions, and may be cultivated without trouble in a dry gravelly or calcareous situation, though we must own the rich blue of its flower-buds is most conspicuous in a wild state.

The long woody root branches near the surface of the ground into several divisions, each bearing a dense tuft of petiolated, smooth, veiny, serrated, or rather crenated, leaves, the first of which are heart-shaped, the rest ovato-lanceolate, and from the centre of which arises a simple erect stem, slightly angular, and clothed with alternate lanceolate leaves, the uppermost of them very acute, and somewhat recurved. A single round head of flowers stands erect on a few ovate, acute, ciliated bractæ. The parts of fructification agree in structure with the genus of *Campanula*, except that the corolla is divided to the very base, into five linear spreading segments, which in the bud cohere together, forming a curved horn, and separating first at their lower part. Every part of the flower remains permanent, though faded, till the seeds are dispersed, or longer. The herb is milky, but not acrid.





J A S I O N E montana.

*Sheep's-bit, or Sheep's Scabious.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* wheel-shaped, deeply divided into 5 linear segments. *Stigma* club-shaped, notched. *Antheræ* united at the base. *Caps.* inferior, imperfectly 2-celled, bursting at the top.

SPEC. CHAR.

SYN. *Jasione montana.* *Linn. Sp. Pl.* 1317. *Sm. Fl. Brit.* 241. *Huds.* 377. *Willd.* 247. *Hull.* 190. *Relb.* 328. *Sibth.* 85. *Abbot.* 189. *Curt. Lond. fasc.* 4. *t.* 58.

Rapunculus Scabiosæ capitulocæruleo. *Raii Syn.* 278.

THE pretty blue flowers of the Sheep's Scabious are conspicuous in dry sandy fields and pastures in the middle of summer, and in autumn the bladderly little capsules remain some time after their seeds are scattered. It has obtained the name of Scabious from its resemblance to the genus properly so called, a resemblance which is merely external, for the *Jasione* is next akin to *Lobelia*, *Campanula* and *Phyteuma* in qualities and botanical characters, being indeed distinguished from the latter only by the cohesion of its antheræ, and by the fruit being but imperfectly 2-celled, the partitions not reach-



Nov. 1. 1861. Published by J. L. Smith, London.

LOBELIA Dortmanna.

*Water Lobelia.**SYNGENESIA Monogamia.*

GEN. CHAR. *Cal.* 5-cleft. *Cor.* of one petal, irregular.
Capfule inferior, with 2 or 3 cells.

SPEC. CHAR. Leaves linear, 2-celled, entire. Stem almost naked.

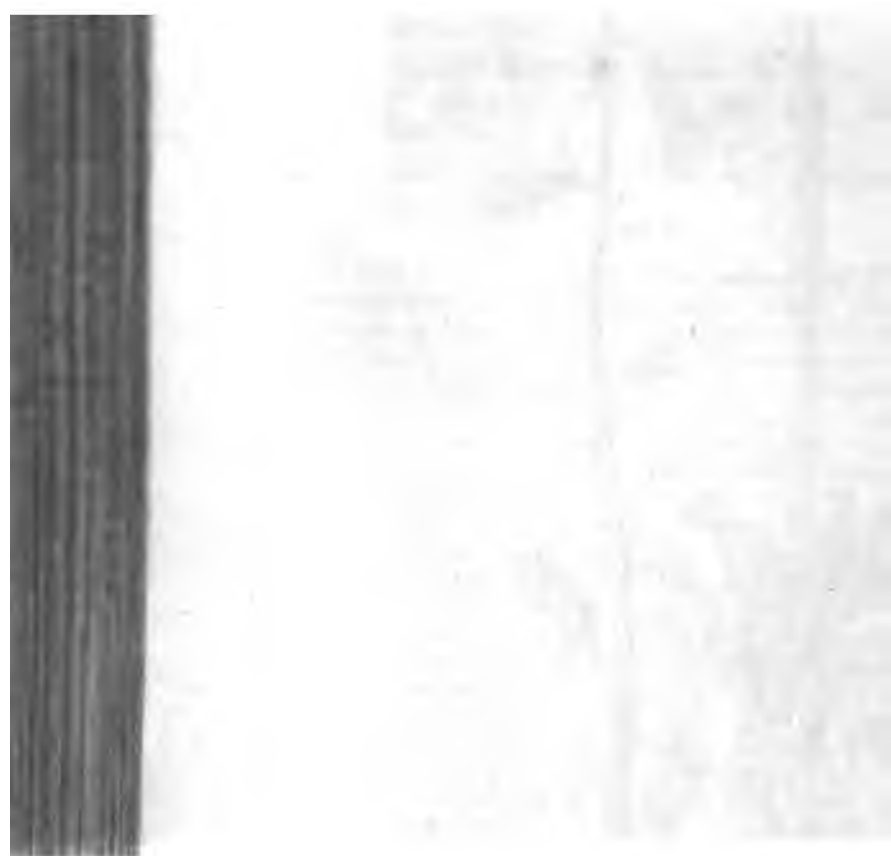
SYN. *Lobelia Dortmanna.* *Linn. Sp. Pl.* 1318. *Huds. Fl. An.* 377. *Witb. Bot. Arr.* 950. *Lightf. Fl. Scot.* 505. *t.* 21.

Gladiolus lacustris. *Ger. em.* 105. *Dortmanni.* *Rau Syn.* * 287.

THE beautiful lakes of Westmoreland and Cumberland abound with this elegant and singular plant. Their gravelly bottoms are generally covered with thick tufts of its leaves, the flowering part of the stem being all that rises above the water; so that in sudden floods it is sometimes entirely overflowed, not having, like some vegetables, the means of accommodating itself to such quick changes, either by a more or less inclined position, or a spiral structure. Dr. Woodville favoured us with this recent specimen from Kewick Lake. The plant grows also in Wales and Scotland, flowering in July.

Root of long simple whitish fibres, perennial. Leaves almost wholly radical, linear, entire, and very blunt, recurved, smooth, chiefly remarkable for their internal structure, as they consist of two longitudinal hollow cells with a partition between. Stem erect, simple, varying in length according to the depth of the water wherein it grows, round, smooth, hollow, terminated by a simple upright loose spike or racemus of elegant pale purplish drooping flowers, standing on short footstalks with a small blunt bractea at the base of each. The segments of the corolla are slightly bearded at their base, as are the antheræ at their tip. The stigma too is ciliated. The germen in ripening becomes erect; an example, among innumerable others, shewing it is not the weight of drooping flowers that makes them take an inclined position; the fruit of such, though much the heavier, being almost always upright, for the seeds are thus more surely retained till ripe, and then more extensively scattered; whereas by the inclined corolla, or rather, in this genus, by the incurved figure of the antheræ themselves, the pollen is sheltered from wet.—This herb abounds with milky juice.





LOBELIA urens.

*Acrid Lobelia.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* irregular, slit longitudinally on its upper side. *Stigma* capitate. *Antheræ* united into a tube. *Capf.* inferior, with 2 or 3 cells.

SPEC. CHAR. Stem upright. Lower leaves obovate; upper ones lanceolate; all toothed. Flowers racemose, downy.

SYN. *Lobelia urens.* *Linm. Sp. Pl.* 1321. *Sm. Fl. Brit.* 243. *Hudsf.* 378. *With.* 246. *Hull.* 191. *Curt. Lond. fasc.* 6. t. 63. *Dickf. H. Sicc. fasc.* 16. 9.

THIS rare plant was scarcely known to the generality of English botanists, except by Mr. Hudson's report, till Mr. Curtis received it from Lord Webb Seymour, and figured it extremely well in his Flora. We have been, like him, obliged to delineate a garden specimen, taken from the choice collection of James Vere, Esq., Knightsbridge. It has never been found (in England) out of Devonshire; but in addition to the two spots already on record we can add Ottery St. Mary, near which town it was observed in the autumn of 1800 by Miss Burgefs. It is perennial, growing on heaths among small shrubs, and flowering about September.

Root fibrous, increasing by offsets. Stem about a foot high, branched, leafy, angular, roughish, but not hairy. Leaves all irregularly toothed rather than serrate, alternate, the lowest obovate. Flowers in very long, terminal, simple, bracteated spikes or clusters. Calyx of 5 linear rough spreading leaves, crowning the furrowed roughish germen. Corolla of a full purplish blue, rough with minute points. Stamina protruding through the fissure of the corolla, their filaments in the upper part, as well as the antheræ, united into a tube. Stigma deflexed, its head cloven, and, when in perfection, gaping, fringed beneath with short hairs. Capsule 2-celled. Seeds numerous, small. Herb milky, fœtid and very acrid.



Nov. 1, 1851. Published by J. L. Sowerby, London.

IMPATIENS *Noli me tangere.*

Yellow Balsam.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. of 5 petals, irregular, with an hood-shaped nectary. *Antheræ* slightly connected. *Capsule* superior, of 5 elastic valves. *Cal.* of 2 leaves.

SPEC. CHAR. Flower-stalks solitary, bearing many flowers. Leaves ovate. Joints of the stem swelling.

SYN. *Impatiens Noli me tangere.* Linn. *Sp. Pl.* 1329. *Sm. Fl. Brit.* 244. *Huds.* 380. *Willd.* 263. *Hull.* 192.

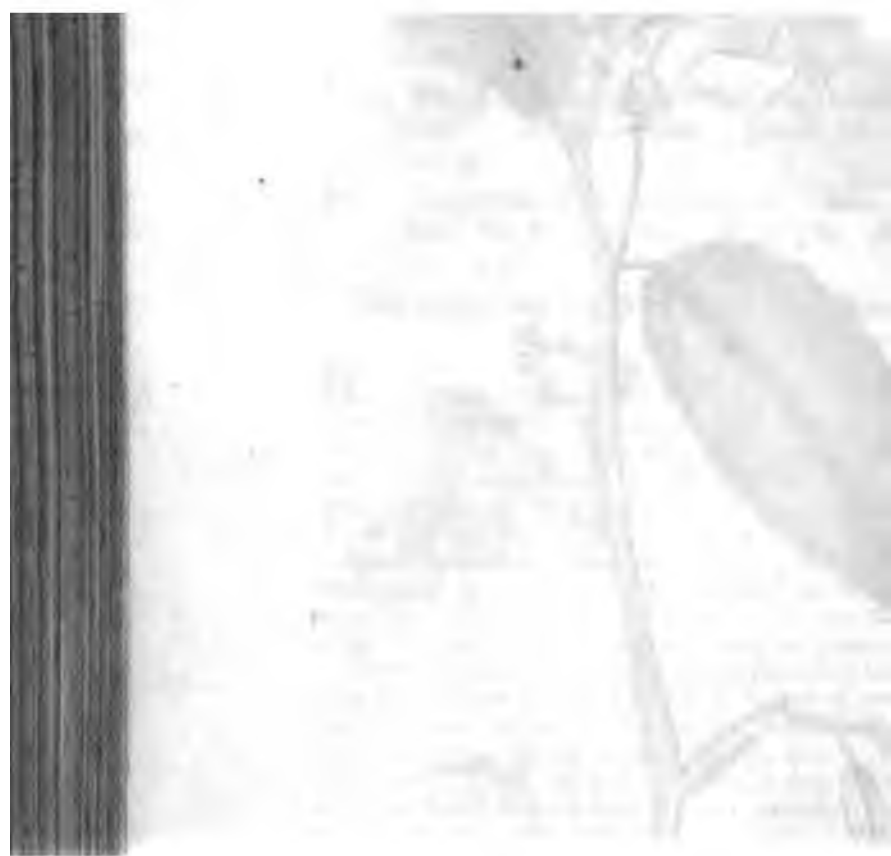
Balsamine lutea, five *Noli me tangere.* *Raii Syn.* 316.

RAY mentions this elegant plant as a native of several places in Westmoreland, Lancashire, Yorkshire, and Wales. We have seen it plentifully about the north end of Winandermere, in watery spots. It will succeed well in shady gardens, scattering its seeds spontaneously with more success than if sown by the hand. We have been obliged now to have recourse to a garden specimen, (differing in no respect from wild ones,) the herb being so delicate, and from the quick evaporation of its juices liable to wither so very soon, that it could not have been obtained fresh from any great distance.

The root is annual, branched, fleshy, spreading horizontally. Stem solitary, erect, about 2 feet high, branched, leafy, round, succulent, very smooth and polished. Leaves alternate, on footstalks, ovate, obtuse, serrated, smooth, veiny. Villars says they become flaccid and as if withered, during the night, but we have found them otherwise in a garden. Flowerstalks axillary and branched, bearing 4 or 5 large handsome pendulous flowers, yellow spotted internally with red, consisting of a horn-shaped nectary, 1 upper petal, and 2 large lateral lobed ones, accompanied at the base by 2 small entire petals united to them. *Antheræ* united at their bases rather than their summits. The elastic valves of the capsule, when ripe, curl up, and fly asunder on the slightest touch, whence the common name *Touch me not*.



Impatiens pubescens L. f. *pubescens* L. f.





VIOLA hirta.

Hairy Violet.

PENTANDRIA Monogynia.

GEN. CHAR. *Cal.* 5-leaved, lengthened out at the base. *Pet.* 5, irregular; the lowermost spurred behind. *Antheræ* slightly cohering. *Capf.* superior, of 1 cell, with 3 valves.

SPEC. CHAR. Stem none. Leaves heart-shaped, rough, as well as their footstalks, with hairs. Calyx obtuse.

SYN. *Viola hirta.* *Linn. Sp. Pl.* 1324. *Sm. Fl. Brit.* 244. *Hudf.* 379. *With.* 260. *Hull.* 191. *Roll.* 329. *Sibth.* 83. *Abbot.* 190. *Curt. Lond. fasc.* 1. t. 64.

V. maritima major, *hirta*, *inodora.* *Raii Syn.* 365.

THE *Hairy Violet*, which to a careful observer differs from the common *field violet* in having rather paler and larger flowers, is notwithstanding a most distinct species from which and to which it is frequent. It is only found on a chalky limestone soil, flowering in April or May. Our specimen grew at Chanten in Kent.

Root perennial, somewhat woody. Stem none. Scyous fruit, simple, prostrate, but not taking root. Leaves on long upright hairy foot-stalks, heart-shaped, serrated, veiny, clothed on both sides with short dense hairy hairs. Stipule in pairs, narrow, lanceolate, toothed. Flower-stalks taller than the leaves, divaricate, bearing within their middle (as Mr. Curtis first observed) a pair of small ciliate linear bractes. Calyx smooth. Lateral petals marked with a hairy line, as in *V. odorata*. Stamens flat. Anthers terminating in an orange-coloured membrane, approaching each other, but not united. Capsule roundish, hairy, containing several round seeds.







V I O L A odorata.

Sweet Violet.

P E N T A N D R I A *Monogynia.*

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5, irregular, the lowermost spurred behind. *Capsf.* superior, of one cell, with three valves.

SPEC. CHAR. Stem none. Scyons creeping. Leaves heart-shaped, smoothish as well as the footstalks. Calyx obtuse.

SYN. *Viola odorata.* *Linn Sp. Pl.* 1324. *Huds.* 378. *With.* 260. *Hull.* 191. *Relb.* 329. *Sibth.* 83. *Abbot.* 190. *Curt Lond. fasc.* 1. t. 63.

V. maritima purpurea. *Raii Syn.* 364.

THE favourite Violet, so justly esteemed for its delightful fragrance, is, like many other most desirable plants, frequently found wild, and easily cultivated in a garden. It requires only a moderate degree of shade and moisture, and commonly flowers in March or April. A white-flowered variety sometimes occurs, and a double one is preferred by florists, not merely because it is unnatural, but on account of its richer scent.



Viola arvensis L. f. *Viola* L. f. *Viola* L. f.

V I O L A palustris

Marsh Violet.

PENTANDRIA Monogæia

Cor. Cass. Cal. 5-leaved. Petals 5, irregular, the lowermost spurred behind. Gynæ. superior, of one cell, with 3 valves.

Sepal. Cass. Stem none. Leaves kidney-shaped.

Syn. Viola palustris. Lam. Sp. Pl. 1324. Hudf. 379.

Willd. n. 506. Lefeb. 506. Curt. Lond. fasc. 3. t. 58.

V. palustris autumnalis glabra. Raii Syn. 364.

ON the moist parts of sandy or marshy heaths, more frequent in Scotland, and the north of England, than in the south; yet it is found plentifully (according to Mr. Curtis) near Croydon, and our specimen was gathered in Norfolk by Mr. Dawson Turner. This violet is not mentioned in the Floras of Reland or Sibthorp, though Ray says it grows near Oxford. *J. D. 1844*

Root perennial, creeping, somewhat fleshy, with many fibres. Stem none. Leaves on smooth semi-cylindrical foot-stalks, spreading, kidney-shaped, more or less pointed, crenate, veiny, smooth, of a delicate texture, often purple beneath. Stipule radical, ovate, acute, smooth, scarcely perceptibly serrated. Flower-stalks longer than the leaves, erect, square, smooth, with a pair of lanceolate erect bractæ about the middle, not always below the middle as mentioned in the Flora Londinensis. Flowers appearing in May, solitary, drooping, inodorous, paler and smaller than in the more common species. Calyx-leaves rather elliptical, slightly membranous at the edge. The 2 upper petals are scarcely streaked at all; the 2 lateral ones have one dark longitudinal line, and are bearded with white near the base; the lowermost is beautifully marked with numerous branched streaks, and terminates behind in a short blunt honey-bearing spur. The antheræ are bordered with an orange-coloured membrane; but, though collected together, they are scarcely united, any more than in other species of *Viola*, so that whether the Linnæan System remain in its original form or not, this genus ought no longer to continue in the class *Syngenesia*. Stigma acute, with a singular protuberance above it.

Such is our plant, which agrees precisely with the Linnæan specimen. The *Viola rubra striata Eboracensis* Raii Syn. 365, should seem by coloured copies of the Flora Danica to be t. 83 of that work; and the leaves are there represented less pointed, or more truly kidney-shaped, than ours, but we have no doubt of its being merely a variety.





V I O L A canina.

Dog's Violet.

P E N T A N D R I A *Monogynia.*

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5, irregular, the lowermost spurred behind. *Cupf.* superior, of one cell, with three valves.

SPEC. CHAR. Stem at length ascending, channelled. Leaves oblong-heartshaped. Calyx acute.

SYN. *Viola canina.* *Linn. Sp. Pl.* 1324. *Huds.* 379. *With.* 261. *Hull.* 191. *Relb.* 329. *Sibth.* 83. *Abbot.* 190. *Curt. Lond. fasc.* 2. t. 61.

V. maritima inodora sylvestris. *Rau* Syn. 364.

AFTER the flowers of the Sweet Violet are gone, every copse, heath, and shady dell is decorated, for two or three months, with the paler and less welcome blossoms of the *Viola canina*, which are totally without smell. The epithet *canina* seems to have been given to it, as to the hedge rose, to express a degree of inferiority or unworthiness, as if a dog were always a less respectable or useful animal than his master.

This species varies, like the preceding, in the colour of its blossoms: the whole herb is moreover extremely variable in size, and the leaves in form: we are almost persuaded that our



Viola sp. pubescens, L. var. sp. pubescens.

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VIOLEA canina.

Dog's Violet.

PENTANDRIA Monogynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5, irregular, the lowermost spurred behind. *Caps.* superior, of one cell, with three valves.

SPEC. CHAR. Stem at length ascending, channelled. Leaves oblong-heartshaped. Calyx acute.

SYN. *Viola canina*. *Linn. Sp. Pl.* 1324. *Huds.* 379. *Willd.* 261. *Hull.* 191. *Rehb.* 329. *Sibth.* 83. *Abbot.* 190. *Curt. Lond. fasc.* 2. t. 61.

V. maritima inodora sylvestris. *Rau Syn.* 364.

AFTER the flowers of the Sweet Violet are gone, every copse, heath, and shady dell is decorated, for two or three months, with the paler and less welcome blossoms of the *Viola canina*, which are totally without smell. The epithet *canina* seems to have been given to it, as to the hedge rose, to express its disagreeable odour, or its smell, as if a dog were always accompanying it, and his smell more than his master.

It is sometimes seen, as in the preceding. In the colour of its blossoms, and in the size of its leaves, it is extremely variable in size, and the leaves sometimes are almost persuaded that our *Viola canina* is only a variety of this, for culture brings them to the same perfection.

It is perennial, from a short body. The first flowers are radical, but several branched angular leafy stems soon spring forth, which continue growing and bearing numerous flowers for several years. Leaves heart-shaped or oblong, crenate, smooth: two of them are the same, that dilated at the top. Stipule fingered. Flower stalks solitary, erect, square, bearing two awl-shaped bractes in the upper part, and one nodding blue flower. Anthers scarcely exserting. Calyx-leaves acute. Stigma gibbous. Capsule rather more oblong than in the Sweet Violet. Seeds roundish.

V I O L A lactea.

Cream-coloured Violet.

PENTANDRIA Monogynia.

GEN. CHAR. Cal. 5-leaved. *Petals* 5, irregular, the lowermost spurred behind. *Capsule* superior, of one cell, with 3 valves.

SPEC. CHAR. Stem ascending. Leaves ovato-lanceolate.

SYN. *Viola canina*, var. 3. *With.* 262.

WE are extremely doubtful of the permanency of this species, and now publish it as distinct from *V. canina*, rather in conformity to the opinion of others, and in hopes of having the point cleared up by investigation and culture, than as wishing to decide upon it ourselves. The root from which our specimen was taken, was gathered on the wolds near Tunbridge-wells, by Mr. T. F. Forster, jun. and flowered lately in his garden. This gentleman communicated it to Mr. Sowerby, as a new species of *Viola*; and his opinion is of the greatest weight, no one hitherto having studied this whole genus, both foreign and domestic, half so accurately and laboriously.

The root is perennial. Herb in all its parts much smaller than the *canina*, quite smooth. Stems procumbent at the base, and throwing out radicles, then erect, round, branched, leafy. Leaves alternate, on footstalks about their own length, generally erect, lanceolate or inclining to ovate, decurrent (not cordate) at their base, veiny, crenate, rather obtuse. Stipulæ deeply toothed, and often pinnatifid. Flower-stalks axillary, solitary, erect, rising as high as the branches, each bearing above its middle a pair of purplish lanceolate bractæ, mostly toothed near their base, and at the top one nodding flower. Calyx-leaves linear-lanceolate. Petals cream-coloured, obtuse, much narrower than in *V. canina*, streaked, especially the lower one, with purple lines disposed as those in *V. canina*, and the two side petals (as in that) are hairy above the base. Spur short and blunt. Antheræ terminating in a broad dilated membrane, not cohering to each other. What distinguishes our *V. lactea* from *canina* is principally the narrow and lanceolate (not heart-like) form of the leaves, which if permanent is sufficient. The stipulæ also appear to be more deeply cut; and the bractæ, which are entire and almost setaceous in *canina*, are lanceolate, and mostly toothed. It flowers in May, and, if we are right in the quotation of Dr. Withering, has been found by Mr. Stackhouse in Cornwall.



Ranunculus repens

[1287]

VIOLA tricolor.

*Pansy Violet, or Heart's-ease.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cal.* 5-leaved, lengthened out at the base.
Pet. 5, irregular; the lowermost spurred behind.
Antheræ slightly cohering. *Caps.* superior, of 1
 cell, with 3 valves.

SPEC. CHAR. Stem angular, spreading. Leaves ob-
 long, deeply crenate. *Stipulæ* lyrate, pinnatifid.

SYN. *Viola tricolor.* *Linn. Sp. Pl.* 1326. *Sm. Fl.*
Brit. 248. *Huds.* 380. *With.* 262. *Hull.* 191.
Relh. 89. *Abbot.* 190. *Curt. Lond. fasc.* 1. t. 65.
Woodv. Suppl. t. 252. *Raii Syn.* 365.

β. V. arvensis. *Sibth.* 84.

V. bicolor arvensis. *Raii Syn.* 366.

THE Wild Heart's-ease, the origin of all our annual garden ones, is very common in corn-fields, more particularly on a dry or gravelly soil, and varies so much in the size and colour of its flowers, in the field as well as the garden, that we cannot agree with those authors, however ingenious, who divide it into two species, especially as the hairiness of the calyx proves very uncertain.

It is annual, and flowers from May to September. Root fibrous, small. Stem branched, weak and spreading, leafy, angular, downy. Leaves alternate, on long stalks, ovate-oblong, more or less deeply notched or toothed, various in hairiness. *Stipulæ* pinnatifid, with a large, ovate, terminal, crenate lobe. Flowers on long axillary stalks, solitary, with very minute bractæ. Petals generally longer than the calyx, variegated in colour, the lowermost generally yellow, the 2 upper ones most purple.

We believe this completes our history of British *Viola*, except the *amaena*, described in Mr. Symons's *Synopsis*. That species we have never been able to ascertain, the specimens we have seen not appearing to be distinct from *V. lutea*; but we shall endeavour to learn more on the subject.



March 1. 1890 Published by J. G. Sowerby London.

VIOLA lutea.

Yellow Mountain Pansy.

PENTANDRIA Monogynia.

GEN. CHAR. *Cal.* 5-leaved, lengthened out at the base. *Pet.* 5, irregular; the lowermost spurred behind. *Antheræ* slightly cohering. *Caps.* superior, of one cell, with three valves.

SPEC. CHAR. Stem triangular, unbranched. Leaves ovato-oblong, crenate, ciliated. Stipulæ lobed, palmate.

SYN. *Viola lutea.* *Sm. Fl. Brit.* 248. *Huds. ed.* 1. 331, *With.* 263. *Hull.* 192.

V. grandiflora. *Huds.* 380. *Lightf.* 508.

V. montana lutea grandiflora nostras. *Raii Syn.* 249.

THIS Violet, which a superficial botanist might pass by as one of the many varieties of the Common Heart's-ease, differs widely from that species in its place of growth, in being peren-



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VIOLA lutea.

*Yellow Mountain Pansy.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cal.* 5-leaved, lengthened out at the base. *Pet.* 5, irregular; the lowermost spurred behind. *Antheræ* slightly cohering. *Capf.* superior, of one cell, with three valves.

SPEC. CHAR. Stem triangular, unbranched. Leaves ovato-oblong, crenate, ciliated. *Stipulæ* lobed, palmate.

SYN. *Viola lutea.* *Sm. Fl. Brit.* 248. *Hudf. ed.* 1. 331. *Witb.* 263. *Hull.* 192.

V. grandiflora. *Hudf.* 380. *Lightf.* 508.

V. montana lutea grandiflora nostras. *Raii Syn.* 249.

THIS Violet, which a superficial botanist might pass by as one of the many varieties of the Common Heart's-ease, differs widely from that species in its place of growth, in being perennial, in having a simple stem, and in the shape of its stipulæ, which are deeply five-cleft and palmate, not pinnatifid nor lyrate, though their middle lobe is larger than the rest.

V. lutea is found only in grassy mountainous pastures, flowering from May to September. It is plentiful in the north of England, Scotland, and the wildest parts of South Wales. The root is small and slender. Stem unbranched, weak and prostrate at the base, then erect, rising to the height of 3 or 4 inches, leafy, triangular, very slightly downy, bearing one or two flowers on very long stalks from the bosoms of the upper leaves. Leaves alternate, on footstalks, more or less ovate, crenate, finely fringed, accompanied by a pair of large, deeply 5-cleft, fringed stipulæ, whose outer lobes are deepest and narrowest. Calyx toothed at the base. Petals either all yellow, with dark-purple radiating veins, or the 2 uppermost are of a blue purple, the rest yellow with a blue tinge; very often the whole are purple. The antheræ are slightly attached to each other. The singular form of the style and stigma is expressed in our figure greatly magnified; the purple line under the stigma is remarkable.

VERBASCUM Thapsus.
Great Mullein, or High Taper.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped, a little irregular.
Caps. superior, with 2 cells and 2 valves. Stamina bearded.

SPEC. CHAR. Leaves decurrent, woolly on both sides.
Stem simple.

SYN. Verbascum Thapsus. Linn. Sp. Pl. 252.
Huds. 89. With. 248. Relh. 88. Sibth. 77.
V. mas latifolium luteum. Raii. Syn. 287.

FREQUENT on banks, hedges, and waste ground, more especially on a gravelly or calcareous soil, flowering in July and August.

The root is biennial, spindle-shaped. Stem erect, simple, stiff and straight, from 3 to 5 feet high, leafy, woolly, angular, winged. Leaves alternate, decurrent, oblong, nearly entire, very thickly clothed on both sides with white, branched, intricate, woolly hairs. Spike terminal, erect, cylindrical, dense, many-flowered. Flowers sessile, closely set, bright yellow, rarely white. Stamina yellow, hairy. Antheræ red. Stigma club-shaped.

Mr. Robson communicated to Dr. Withering a mule plant, produced under his own eyes, from this species impregnated by *V. nigrum*. Indeed no genus is more apt to engender such than this.

A pint of cow's milk with a handful of the leaves of this Mullein, or the *V. pulverulentum*, t. 487, boiled in it to half a pint, sweetened with sugar, strained and taken at bed-time, is a pleasant emollient and nutritious medicine for allaying a cough, and more particularly for taking off the pain and irritation of the piles. The whole herb is mucilaginous, and a little narcotic.



Helianthus scaberrimus L.

VERBASCUM *Lychnitis*.*White Mullein.**PENTANDRIA Monogynia.*GEN. CHAR. *Corolla* wheel-shaped, a little irregular.*Capsule* with one cell, and two valves.

SPEC. CHAR. Leaves oblong-wedge-shaped, nearly smooth on the upper side.

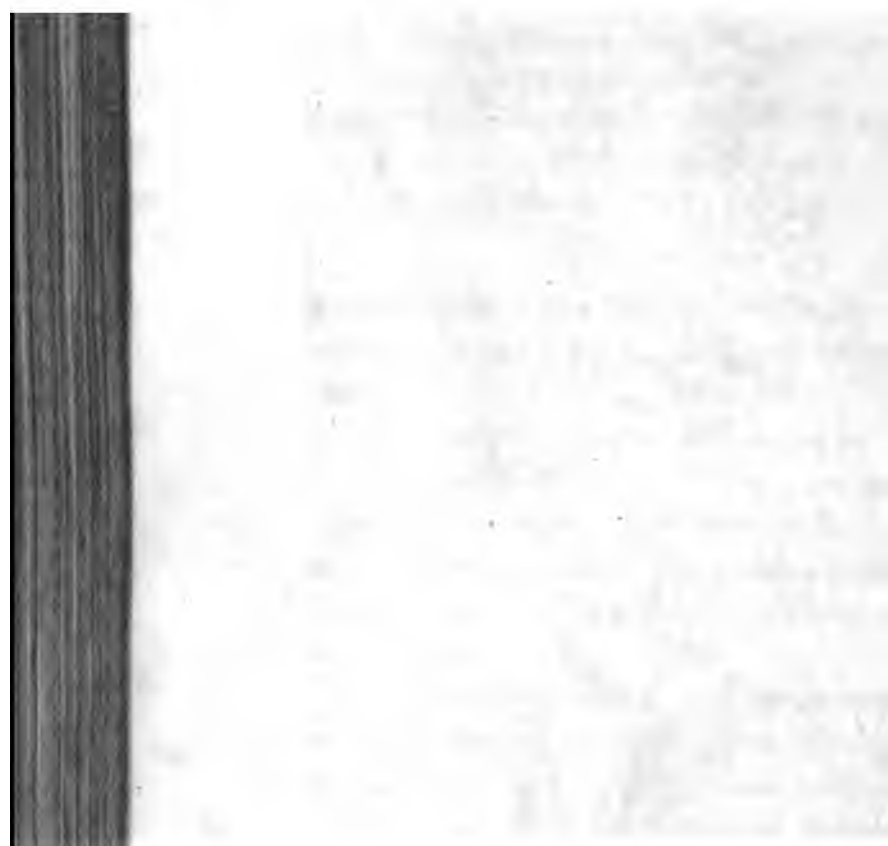
SYN. *Verbascum Lychnitis*. *Linn. Sp. Pl.* 253. *Huds.**Fl. An.* 90. *With. Bot. Arr.* 225 β.*V. flore albo parvo. Raii Syn.* 287.

GATHERED in lanes about Dartford in Kent, flowering in June. It loves a chalky soil, and is most frequent in that county.

Our specimens agree precisely with that in the Herbarium of Linnæus, which we learn, from certain marks and numbers, to be what he intended in the 1st edition of *Species Plantarum* for *V. Lychnitis*, though even in that work he seems to reckon our hoary yellow Mullein as the original species, making the









VERBASCUM pulverulentum.
Yellow hoary Mullein.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped, a little irregular.
Capf. with 2 cells and 2 valves.

SPEC. CHAR. Leaves oblong-ovate, slightly serrated,
mealy on both sides. Stem round, panicked.

SYN. Verbascum pulverulentum. Curt. Cat.-Salisb.
Prod. 104.

V. pulverulentum, flore luteo parvo. Raii Syn. 287.

V. Lychnitis β . Hudf. 90. var. 1. With. 249.

GATHERED by Mr. John Wagstaff, at Norwich, about which town, as well as Bury, and in some other parts of Norfolk and Suffolk, this beautiful plant grows plentifully in waste ground, hedges, and the borders of fields. It is biennial, flowering in July; at which time, if not previously broken or damaged, it forms a golden pyramid a yard high, of many hundreds of flowers, and is one of the most magnificent of British herbaceous plants.

The leaves are often above a foot long, of a somewhat elliptical pointed form, those on the stem more ovate and sessile, all of them slightly serrated, and clothed on both sides with white mealy down, which easily rubs off, and, when seen in a microscope, is found to consist of numerous starry entangled tufts. The stem is round, not angular as in true *V. Lychnitis*, t. 58, woolly, as well as the calyx, forming a pyramidal branched panicle. The flowers are clustered on its branches. Corolla large, bright yellow. Stamina scarlet, bearded with pale or white hairs. In some places, as Helleston, near Norwich, a mule plant is produced between this and *V. nigrum*, having the habit of the former, and flowers with purple stamina like the latter.

We are now satisfied that the capsule of this genus has 2 cells, and have corrected ourselves accordingly.

A singular instance of irritability in this and some other species of *Verbascum* has been pointed out to us by Mr. Correa. In still warm weather, if 2 or 3 smart blows be given to the stem with a cane or stick, all the corollæ then open, though not immediately loosened, in a few minutes fall off, separating one after another from their base, and the calyx closes round the germen, seeming as it were to push the blossom off.







VERBASCUM nigrum.

Dark Mullein.

PENTANDRIA Monogynia.

GEN. CHAR. *Corolla* wheel-shaped, a little irregular.
Capsule with one cell, and two valves.

SPEC. CHAR. Leaves oblong-heart-shaped, on footstalks.

SYN. *Verbascum nigrum*. *Linn. Sp. Pl.* 253. *Huds. Fl. An.* 90. *Wub. Bot. Arr.* 226. *Relb. Cant.* 88.

V. nigrum flore parvo, apicibus purpureis. *Raii Syn.* 288.

BY what figure of speech this beautiful plant can be called *black*, not having a particle of that colour about it, we will not determine. All the old botanists, however, have so denominated it; and if they had any meaning, it can only have been that it was *not white*.

Its dark-green leaves are sometimes hoary beneath, especially the upper ones. The racemus of flowers is longer and more simple than in most of the other species. Nothing can be more elegant than the purple stamina contrasted with the yellow corolla.

This species loves a gravelly soil, and is not rare in Norfolk and Suffolk. It is very conspicuous at a distance under hedges in green shady lanes, to which it is a great ornament. The flowers appear about Midsummer, and last till September. The root is perennial.





VERBASCUM virgatum.

Large-flowered Mullein.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped, a little irregular. Caps. superior, with 2 cells and 2 valves. Stamina bearded.

SPEC. CHAR. Leaves oblong-lanceolate, dentate, sessile; the radical ones somewhat lyrate, downy. Stem branched. Flowers clustered, nearly sessile.

SYN. Verbascum virgatum. With. 250. Sym. Syn. 56. Blattaria flore amplo. Ger. em. 778.

DR. STOKES first clearly ascertained this species, which in many respects is closely allied to *V. Blattaria*, t. 393; but we see no reason to think it a variety, nor scarcely a mule, of that, especially as it is copiously propagated by seed, and as the *Blattaria* does not grow where this is found. It is biennial, flowering in September and later. Our worthy friend the Rev. Mr. Baker took this individual plant, when a seedling, from one of the spots near Worcester mentioned in Withering, and it flowered in his garden. He informs us this Mullein was first observed growing plentifully in a field near Wrexham, by Mrs. Nash, who planted it in her garden at Bevere, from whence probably its seeds got to the neighbouring turnpike-road to Ombersley, and from thence to the lane leading to Gregory's mill.

The root is thick, branched. Whole plant much larger and stronger than the *Blattaria*, clothed generally all over, and the lower leaves constantly, with short, prominent, often forked, glandular hairs. Stem 5 or 6 feet high, branched from the bottom, leafy, round, but somewhat angular or winged from the leaves running down it. Radical leaves resembling those of the primrose, but larger, and more or less lyrate; those on the stem oblong-lanceolate, doubly dentate, sessile; the upper ones heart-shaped long-pointed, dentate, sessile, and in some degree embracing the stem. Flowers axillary, clustered, on short woolly stalks, and some of them sessile, large, yellow, purple about the centre, soon falling off. Segments of the calyx ovate, larger and broader than in *V. Blattaria*. Stamina yellow, bearded in the middle with purple.

Mr. Baker has observed that the woolliness of the stem and branches varies in degree, and that weak plants have sometimes solitary flowers, but always on much shorter thicker stalks than the *Blattaria*.



Malva sylvestris L. *var. officinalis* L.

VERBASCUM *Blattaria*.*Moth Mullein.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* wheel-shaped, a little irregular.
Caps. with one cell, and two valves.

SPEC. CHAR. Leaves embracing the stem, oblong,
 smooth, serrated. Flower-stalks single-flowered,
 solitary.

SYN. *Verbascum Blattaria*. *Linn. Sp. Pl.* 254. *Huds.*
Fl. An. 91. *With. Bot. Arr.* 229.

Blattaria lutea. *Raii Syn.* 288.

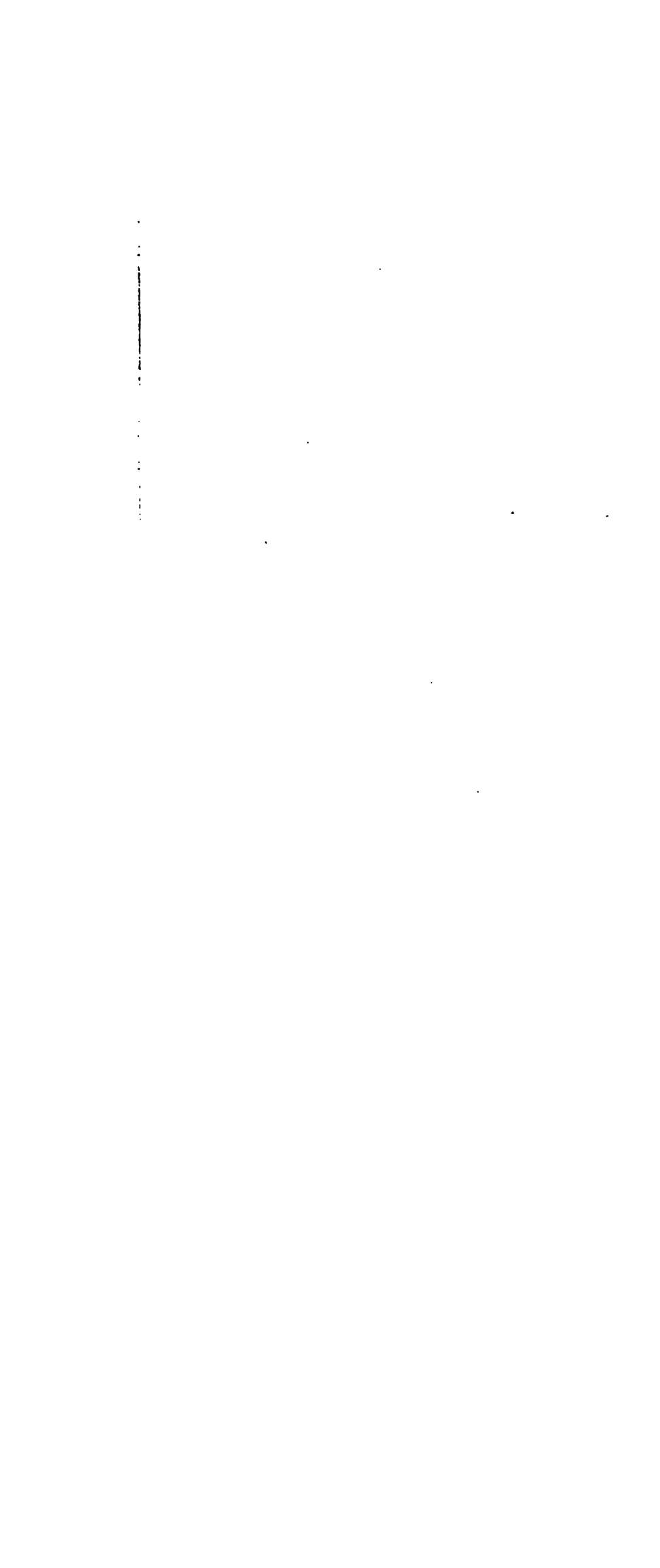
FOUND by Mr. Jacob Rayer on a bank about 3 miles from Rochester, near the river Medway, in which neighbourhood it is mentioned as growing in Ray's time. We are enabled by means of this wild specimen to remove Dr. Stokes's doubt in the *Bot. Arr.* whether the true *V. Blattaria* be an English plant or not. In gardens it is frequently cultivated, and very ornamental, flowering from July to November, or even later, if the weather be mild.

Root annual, fusiform. Stem 3 or 4 feet high, branched, leafy. Radical leaves slightly pinnatifid; stem-leaves ovate, or oblong, pointed, embracing the stem; all smooth, veiny, unequally or doubly serrated. The upper ones gradually diminish into pointed *bractæ*, from each of whose bosoms arises a solitary simple slender flower-stalk, bearing one handsome yellow flower, streaked more or less with purple. The calyx is in 5 nearly equal segments. Stamina clothed with purple hairs. Germen globose. Capsule rather oblong. The upper part of the stem, as well as the germen, calyx, *bractæ* and upper leaves, are clothed with short hairs tipped with a minute globe.

We have been favoured by the Hon. Mrs. F. Howard with a specimen gathered in Norfolk, near Lynn, which is either a variety of this plant with a large purplish flower, or the *V. phar-niceum* of Linnæus; we have not yet been able to determine which.



Scilla verna L. f. Linn. f. Linn. f.



DATURA Stramonium.

*Common Thorn-apple.**PENTANDRIA Monogynia.*

GEN. CHAR. *Cor.* funnel-shaped, plaited. *Cal.* tubular, angular, deciduous. *Capsule* superior, of 2 cells and 4 valves.

SPEC. CHAR. Fruit spinous, ovate, erect. Leaves ovate, smooth.

SYN. *Datura Stramonium.* *Linn. Sp. Pl.* 255. *Sm. Fl. Brit.* 254. *Huds.* 92. *With.* 251. *Hull.* 51. *Relh.* 90. *Curt. Lond. fasc.* 6. t. 17.

Solanum pomo spinoso oblongo, flore calathoides, Stramonium vulgò dictum. *Raii Syn.* 266.

LIKE the Borage, and a few other plants that thrive on dunghills, the Thorn-apple, though originally exotic, is now naturalized amongst us. It often occurs about London, and wherever there are any curious gardens in the neighbourhood. Mr. Curtis observes that it is sure to spring up from American earth. When once introduced into a garden, it comes up every year like the Great Persicaria.

As an ornamental plant it has not much to recommend it, though the flowers have a very sweet smell; but its whole habit is rank and cumbersome, and its narcotic dangerous qualities make it still less desirable.

The root is annual. Herb smooth, fœtid, about two or three feet high, flowering from July to October. Stem much branched, forked, spreading. Leaves from the forks of the stem, which seems rather peculiar to the plants called *lurid*, on foot-stalks, ovate, acute, sinuated, unequal at their base. Flowers axillary, solitary, on short stalks, upright, white. Calyx smooth, breaking off above the base. Fruit ovate, with 4 furrows, very spinous, of 2 cells when ripe, each containing many black rugged seeds on a double receptacle.







HYOSCYAMUS niger.

Common Henbane.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* funnel-shaped, obtuse, irregular.
Stamina inclined. *Capsule* with a lid, two-celled.

SPEC. CHAR. Leaves sinuated, embracing the stem.
Flowers sessile.

SYN. *Hyoscyamus niger.* *Limn. Sp. Pl.* 257. *Huds.*
92. *With.* 252. *Relb.* 90. *Sibth.* 77. *Abbot.* 50.
Woodv. Med. Bot. 1. 52.

H. vulgaris. *Raii Syn.* 274.

HENBANE is not uncommon in waste ground, about villages, and by the sides of roads in dry dusty places, more especially on a calcareous soil, flowering in July.

Root annual, spindle-shaped. Stem bushy, round, leafy. Leaves alternate, sessile, sharply sinuated. Spikes terminal, recurved, leafy, simple. Flowers sessile, erect. Calyx pitcher-shaped, with a regular five-cleft border, reticulated with veins, permanent. Corolla straw-coloured, most elegantly pencilled with a net-work of purple veins. Antheræ and style purplish. Capsule clothed with the body of the calyx, divided into two cells, and closed with a convex smooth lid. Seeds numerous.

The whole herb is downy, viscid, and extremely foetid, though a slight degree of its odour is to some people not unpleasant. Its qualities are highly and dangerously narcotic, but like many other poisons, it may, under proper management (as Dr. Withering observes), prove an useful medicine. The seeds and capsules together, smoked as tobacco, are in some places a popular remedy for the toothach, but convulsions and temporary insanity sometimes follow its use. The seeds alone, abounding with oil which counteracts their noxious properties, may be safely eaten, as I have often in my youth experienced, having been told the plant was Clary, and having then a predilection for its flavour. So the seeds of Poppies, which have a very sweet nut-like taste, may be eaten without any narcotic effect.

391.



1811. 1733. *Salvia* or *S. Lavandula*



ATROPA Belladonna.
Dwale, or Deadly Nightshade.

PENTANDRIA Monogynia.

GEN. CHAR. *Cor.* bell-shaped. *Stam.* distant. *Berry* superior, of two cells.

SPEC. CHAR. Stem herbaceous. Leaves ovate, undivided.

SYN. *Atropa Belladonna.* *Linn. Sp. Pl.* 260. *Huds.* 93. *With.* 252. *Rehb.* 90. *Sibth.* 78. *Abbot.* 51. *Curt. Lond. fasc.* 5. t. 16. *Woodv. Med. Bot.* t. 1.

Belladonna. *Raii Syn.* 265.

IN hedges and waste-ground, more especially on a calcareous soil, but happily not very frequent at present, it having by common consent been generally eradicated. The castle-hill at Castle-acre, Norfolk, was a few years ago over-run with it. Indeed it generally occurs about ruined castles and monasteries. Sir T. Frankland found it at Knareborough, and near Sir Walter Vavasor's at Haslewood, Yorkshire. The flowers appear in June, and the fruit ripens in August.

Root perennial, creeping, thick, fleshy, whitish. Stems annual, erect, about 3 feet high, branched, leafy, round. Leaves lateral, in pairs, one smaller than its companion, ovate, entire, of a dull green. Flowers on solitary, simple, axillary flower-stalks, drooping. Corolla of a dull purplish hue, truly expressive of the lurid poisonous tribe to which it belongs. Berry about the size of a small cherry, but flatter, of a shining black, its juice of a fine and lasting violet. Seeds numerous.

This is perhaps the most dangerous British plant. Its fruit is tempting in appearance, sweetish, and without any remarkable or repulsive flavour, so that children have often eaten it, and even half a berry is said to have proved fatal. It occasions a deep and deadly stupor. A draught of vinegar, and keeping the patient walking to prevent sleep, are said to be the surest means of cure. As this poison is not corrosive, and acts solely on the nerves, oil is not so beneficial, and emetics do not take effect.

The leaves given internally in infusion, and applied externally, have been much recommended in cancers; but the sufferings of the patient under ever so small a dose are dreadful.





SOLANUM Dulcamara.

Woody Nightshade, or Bitter-sweet.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped. *Antherae* slightly connected, opening by two pores at the top. *Berry* superior, two-celled.

SPEC. CHAR. Stem shrubby, zigzag, without thorns. Upper leaves hastate. Clusters cymose.

SYN. *Solanum Dulcamara*. Linn. *Sp. Pl.* 264. Hudf. 93. *Walt.* 253. *Relb.* 91. *Sibth.* 78. *Curt. Lond. fasc.* 1. & 14. *Woodv. Med. Bot.* t. 33.

S. lignosum, seu *Dulcamara*. *Raii Syn.* 265.

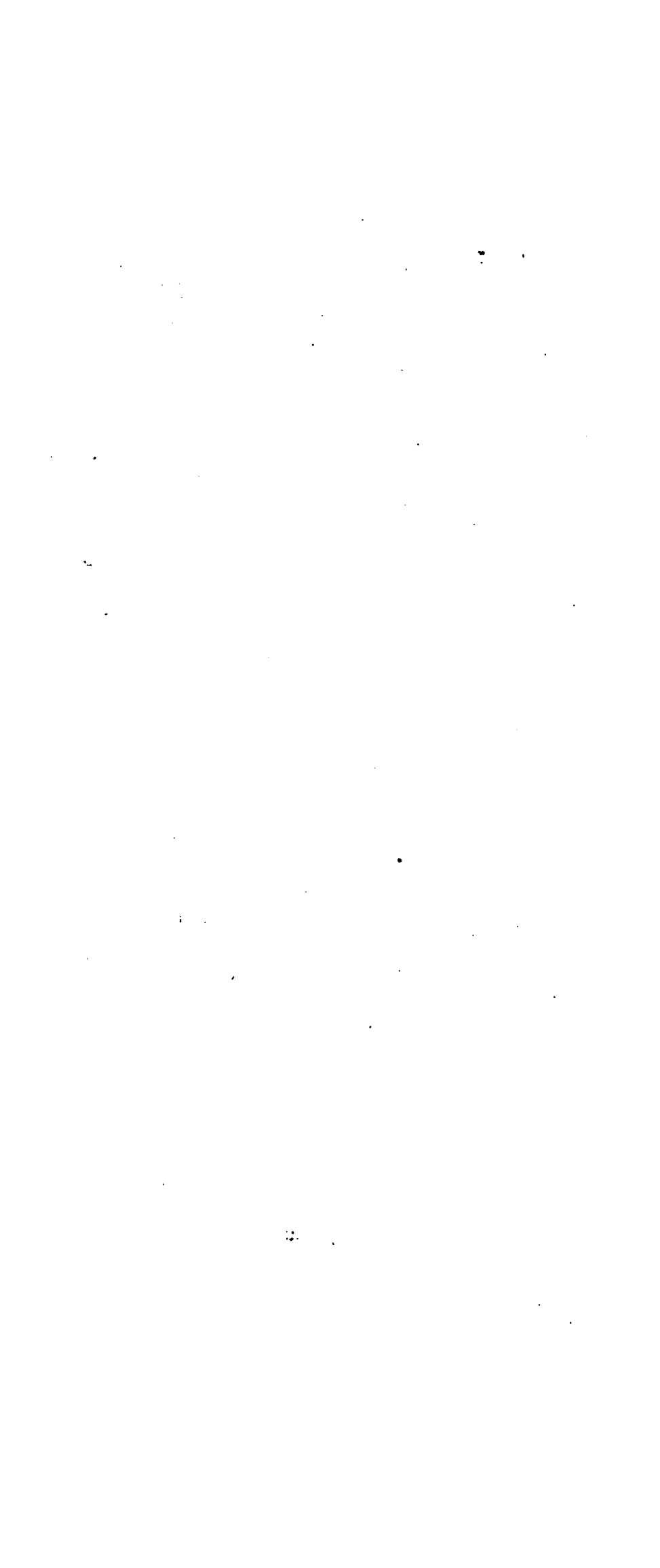
A NATIVE of hedges and shady places where the soil is moist, flowering in June and July.

The woody, branched, twisted stem climbs to the height of several feet. Leaves alternate, on footstalks, entire, smooth, except on the sea shores, where they are hairy; the lowermost are heartshaped and undivided; the uppermost more or less completely halberdshaped. Clusters opposite to the leaves or terminal, having the general appearance, but not the structure, of a cyme, drooping. Flowers very elegant, purple, with two green dots at the base of each segment, and large yellow antheræ. Berries oval, scarlet, very juicy, bitter and poisonous.

The young branches, or the root, employed in a decoction, are much celebrated by some practitioners for removing various obstructions, promoting expectoration, and are useful in obstinate coughs as well as rheumatic disorders.

This medicine is to be cautiously administered in small doses and diluted with milk, especially in the beginning, it being sometimes liable to produce vomiting, convulsions and delirium. See Woodville. Mr. Saunders, author of an elegant Introduction to Botany published in 1792, has, in the course of an extensive country practice, used the *dulcamara* with great success, and without the inconveniences just mentioned.





SOLANUM nigrum.

Common or Garden Nightshade.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped. *Anthere* slightly connected, opening by two pores at the top. *Berry* superior, two-celled.

SPEC. CHAR. Stem herbaceous, without thorns. Leaves ovate, bluntly toothed and waved. Umbels lateral; drooping.

SYN. Solanum nigrum. *Linn. Sp. Pl.* 266. *Huds.* 92. *With.* 254. *Relb.* 91. *Sibth.* 78. *Curt. Lond. fasc.* 2. t. 14.

S. vulgare. *Raii Syn.* 265.

COMMON every where in cultivated as well as waste ground, more especially on dunghills, thriving most in a rich soil, and flowering from June to September.

Root annual, much branched. Stem branched, spreading, leafy, angular, sometimes winged, and often of a woody hardness; for in our mildest seasons, as in hot climates, it survives the winter. Leaves alternate, on footstalks, ovate, waved, lengthened out at the base, somewhat downy. Umbels lateral, from the interstices of the stem between the leaves, drooping, downy, bearing a few white musky-scented flowers. Berries black, globular. Hudson mentions their being sometimes yellow.

The whole herb is foetid, narcotic, celebrated for promoting perspiration and urine, but to be used with great caution. An infusion of from one to three grains of the dried leaf, is said to be amply sufficient for a dose, a larger quantity occasioning violent sickness, with head-ach, giddiness, and other dangerous symptoms. An ointment made of these leaves and hog's lard was used by Solano de Luque, a famous Spanish physician, about two centuries since, in the cure of consumptions. The patient was to be buried for some time up to the chin in the earth, and afterwards rubbed with this ointment. See Dr. Simmons's Observations on the Treatment of Consumptions. Few practitioners now would expect any good from this prescription, at least as far as the nightshade is concerned.



Solanum elaeagnifolium





134. *coloured*



